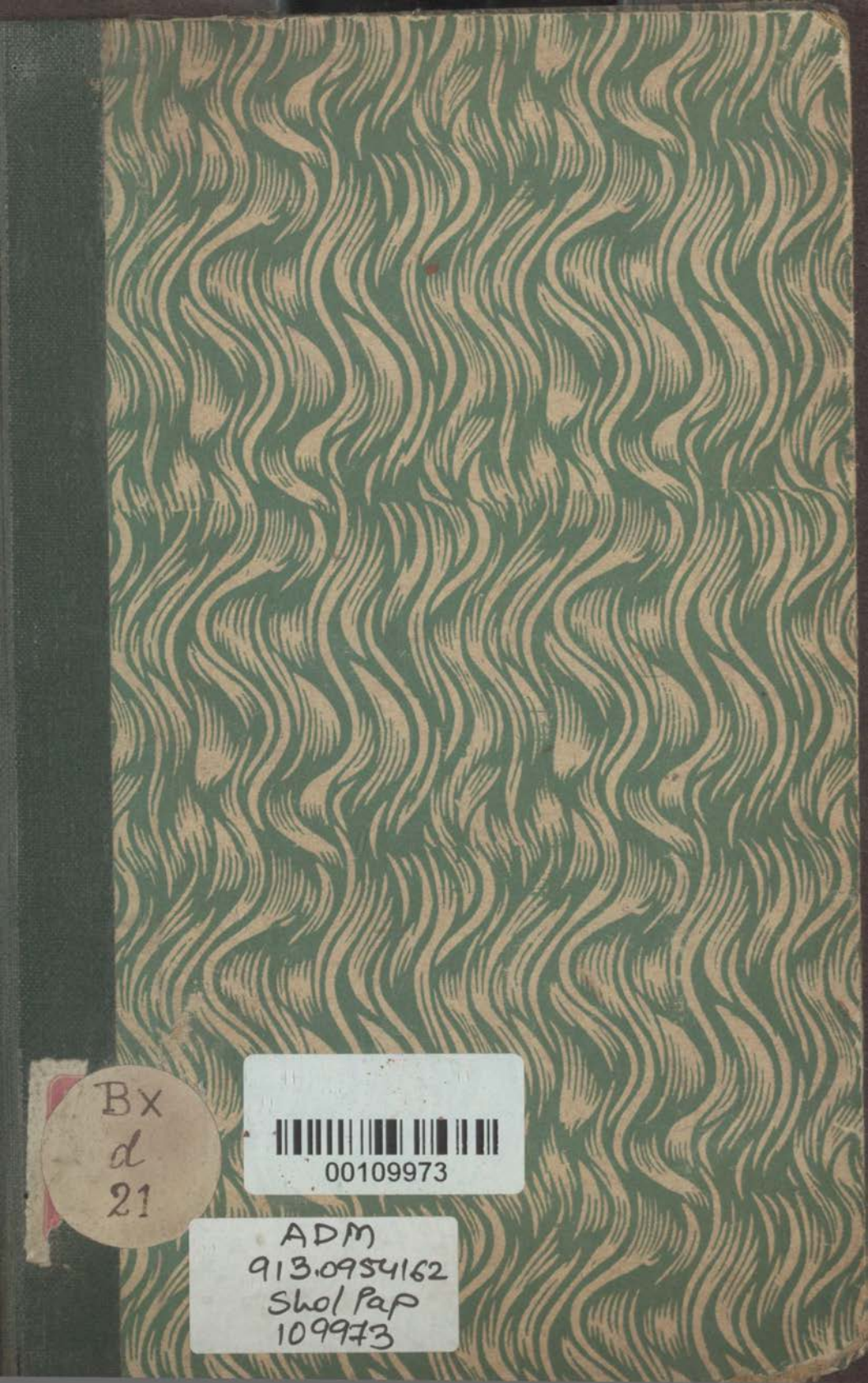
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Papers

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RELATING TO

SOME FRONTIER TRIBES ON THE N. E. BORDER OF ASSAM.

Topographical Report

ON THE

POLITICAL DISTRICTS OF RAIGURH, SARUNGURH, SONEPORE, AND SUMBULPORE,

By Mr. J. SHORTT,

ASSISTANT SURGEON,

Madras Medical Establishment.

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Calcutta:

Thos. JONES, "CALCUTTA GAZETTE" OFFICE.

1855.

ON THE

GEOGRAPHY AND POPULATION

OF

ASSAM.

By Captain JOHN BRYAN NEUFVILLE,

Deputy Assistant Quarter Master General.

In taking a survey of the information lately acquired with regard to the Geography* and Population of Assam, it may be necessary to premise, that prior to the occupation of Rungpur, the capital of Assam, during the late war, all accurate knowledge of these subjects terminated at that point, and that the course of the Brahmaputra had been almost invariably laid down by Hydrographers from a northerly direction and origin, where it was supposed to derive its source from the range of mountains which gives birth to the Ganges.

Experience recently acquired dissipates this favourite hypothesis, and it now appears far more probable, (as indeed has been asserted by the inhabitants of Eastern Assam,) that the original rise of the Brahmaputra, or Lohit, takes place at the same point, whence flows the Irrawaddy to the southward, through the heart of the Burman Empire.

The general course of the Lohit above Rungpur is in a north-east direction, gradually inclining to the eastward on approaching Sadiya, and issuing through the hills from the reservoir of the Brahmakund, situated in about the ninety-sixth degree of longitude, and twenty-seventh

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* Subsequently to the date of this Memoir, much additional information has been collected with respect to the Geography of Assam. Several points, however, of much interest remain to be determined, on which account, any notice of them is, for the present, suspended. When the investigation is complete, some of those members of the Society who are conversant with geographical inquiry, will, it is to be hoped, communicate the result.—*Note by the Secretary to the Asiatic Society.*

degree north latitude—beyond it, masses of snowy mountains extend to the eastward, whence, at a considerable distance, the Lohit is supposed to draw its first source.

In more tranquil times, the Brahmakund was a place of great pilgrimage, and is still held in reverence by the Hindus, as possessing peculiar sanctity.

Having thus adverted to the general course of the stream, I shall proceed in detail, commencing from the mouth of the Dikho River, where the map drawn by Ensign (now Lieutenant-Colonel) Wood, terminates.

Quitting the mouth of the Dikho River, which flows from the southern hills, past Ghargaon and Rungpur, the channel of the Brahmaputra is found to pursue a northerly direction, inclining to east, for a considerable distance, having on its left bank deep jungle and high trees, which mark the site of former populous villages now desolate, and their inhabitants carried into slavery by the Sinh-phos and other predatory tribes.

The Disang also unites at the mouth of the Dikho, flowing from the south-east, and passing the Bor Hath.

On the right bank is the island, called Mojauli, formed by the separation of the Lohit into two branches, about twenty miles above Rungpur, and re-uniting at Solal Pat, near Mour Mukh: it was formerly populous and thickly studded with villages, of which there are now scarcely any vestiges. At the head of the Mojauli, on the right bank, is the district of Sisi, belonging to Assam Proper, which has suffered much from plunder and rapine during the late convulsions.

Ascending the Lohit, after a certain space, the mouth of the Bori Dihing appears on the left bank, which runs by Jaypur and Digli Ghat on the route pursued by the Burmese, and furnishes water-carriage thus far for the canoes of the country. The Bori Dihing flows from the hills considerably to the eastward and south of the Brahmakund, throwing off the Nowa Dihing in its course, which latter stream takes a north-west direction, and intersecting the Sinh-pho territory, empties itself into the Lohit, near Sadiya: numerous tributary streams from the southern line of hills of the Nagpur tribes, flow into the Bori Dihing in its course, which cross the road followed by the Burmese, and materially add to the difficulty of transit during the rainy season.

Continuing on the left bank, which is every where covered by deep grass and forest jungle, the mouth of the Dibúrú Nala presents itself, marking the western boundary of the district inhabited by the tribe

called Morans, Mutteks, or Mowamarias, tributary to Assam. The limits of this tract are bounded on the South by the Bori Dihing River, on the West by a line drawn between that stream and the mouth of the Dibúrú, on the North by the Brahmaputra, and on the East by a line drawn from the Bori Dihing to a point opposite to the Kundil Nala, near Sadiya. The portions at present inhabited are entirely on the banks of the Dibúrú, which takes its rise near the North-east angle, and intersects diagonally the entire tract.

The Mowamarias, or Morans, are subject to one Chief, called the Bar-senapatí, who also acknowledges allegiance to his Lord Paramount, the Raja of Assam : he has successfully maintained his independance, and preserved his country from ravage during all the late convulsions, as well from the Burmese, as the Sinh-phos, and all the neighbouring predatory tribes.

The Mowamarias are Hindus, worshippers exclusively of Vishnu ; but they appear very negligent of the proper observances, and religious opinions of their faith, and are scarcely considered by the Natives from our Provinces, as within the pale of Hinduism. They are almost as much addicted to plunder, as the wild tribes surrounding them, and were held in equal dread by the Assamese. The present place of residence of the Bar-senapatí, is Banaga Gora, on the Dibúrú, and is nearly centrical. The former capitals, called Bara and Chota Sakri, near the head of the river, being too near the Sinh-pho border.

Resuming the right bank above the head of the Mojouli, and the Sítí district, the river pursues a tract now quite barren of culture, and covered with trees and jungle, until it approaches the first line of hills, and washes the country inhabited by the tribe of Míris, a nearly barbarous race, rudely armed with bows and arrows, and differing altogether in language, appearance, and manners from the inhabitants of Assam proper. They have some villages on the bank, of which Motgaum is principal, having been recently re-peopled by the Gaum, or chief, who resumed his allegiance to the Assam government, and claimed protection from the hill Abors, his neighbours. The Míris, as well as the Abors, are very expert in the management of the bow : they make use of a deadly vegetable poison to tip their arrows, which grows in the hills of the Míshmí and Bor Abor tribes, and is much prized : they employ it also to kill wild animals, whose flesh is not rendered unwholesome by its operation. The country inhabited by the Míris extends

from the Sísí district to the Dihong River, which flowing from the northern hills, empties itself into the summit near *Silání Mukh*, (so called from the numerous fragments of rock and stones). The accounts given by all of the course of the Lohit, from the Brahmakund, and above this point, are so corroborative, and so supported by geographical appearances, that I entertain little doubt as to the general accuracy of our knowledge regarding it, and have ceased to consider that stream, as any longer possessing claims to paramount interest. I therefore pause at the Dihing, the very great bulk of which added to many peculiar circumstances related of its supposed source and passage, unite in rendering it an object of the greatest importance in the pursuit of scientific inquiry, as to it alone can we look for any prospect of the realization of the generally received theory, attributing a northern origin to a branch of the Brahmaputra.

The existence of a very large river called the Sri Lohit, (or sacred stream) running at the back of the mountainous ranges, appears to be too generally asserted to be altogether void of foundation, but I am totally unable to ascertain the direction of its course, and can only reconcile the contradictory accounts by supposing it to separate into two branches taking opposite channels; one of these flowing from East to West, is said to discharge its waters into the Dihong, periodically with the rainy season, and the arguments in favour of this statement, are supported by very strong data. The opening in the mountainous ranges through which the Dihong issues, is sufficiently defined to authorize the opinion of its being the channel of a river, and that there is a communication with the plains of the North, as has been shown by fatal experience.

In the reign of Rajeswar, little more than half a century ago, a sudden and overwhelming flood poured from the Dihong, inundating the whole country, and sweeping away, with a resistless torrent, whole villages, and even districts: such is described to have been its violence, that the general features of the country, and the course of the river, were materially altered by it. This flood continued for about fifteen days, during which time various agricultural and household implements, elephant trappings, and numerous articles belonging to a race, evidently social and civilized, of pastoral and agricultural habits, were washed down in the stream.

This circumstance, which does not seem to admit of any doubt, must establish satisfactorily, the existence of a passage from the North to a

stream connected with the Brahmaputra, and its communication, either perennial, periodical, or occasional, with a considerable river of the northern plains. All the accounts received by me, concur in calling this river the Sri Lohit, and that it takes its original rise from the upper or inaccessible Brahmakund, (as recorded in their sacred traditions,) at the same spot with the Buri Lohit, or Brahmaputra. It must be a stream of great importance, as it is familiar to all the various tribes with whom I have held intercourse. The Dihong River, therefore, as being supposed to unite with it, I consider as the point of keenest interest in the extension of geographical knowledge.

Near the confluence of the Dihong with the Lohit, is also that of the Dibong, (a minor stream) which also issues from the northern hills, but considerably to the eastward of the Dihong, and the hilly space between is inhabited by the Abors, a rude hill race, populous and independent, of whom the more powerful, called Bor Abors, occupy the inner, more lofty, and secure ranges. Of the manners and customs of these savage tribes, we have, as yet, but little information, for up to the period of my quitting Sadiya, none of them had been inspired with sufficient confidence to visit us. A list of the names of chiefs on the first, or lowest range, as given to me, will be found in the Appendix (I.)

Above the mouths of the Dihong and Dibong, and the Mírí territory, the river passes through the district of Sadiya, the capital of which, of the same name, is situated about six miles inland, on the Kundil Nala. This district is also tributary to Assam, and properly a part of it, but is now nearly laid waist, and inhabited principally by refugee Khamptis and Maluks, driven by the Sinh-phos from their original seats to the South-east. It is governed by a Khampti Prince, who has assumed the Assamese title of Sadiya Khawa Gohein, claiming the same descent from the god Indra, with the Rajas of Assam, the Chiefs of the Mowamarias, Shams, &c.

The Khamptis of Sadiya and its neighbourhood emigrated towards the plains, now occupied by the Sinh-phos, in the reign of Rajeswar, or Raja Gaurináth, within the last half century, at which time that part of the territory remained in its original integrity. They obtained permission to establish themselves on the Theinga, and settled at Laffa-burí, where they remained till the flight of Raja Gaurináth, during the civil wars, when they took forcible possession of Sadiya, ejecting the then Sadiya Khawa Gohein, and reducing the Assamese inhabitants to slavery

—they have maintained it, uniting with the Burmese interest, during their invasion and occupation. They seem to be a tall, fair, and handsome race, particularly in the higher classes, far superior, in personal appearance to the tribes surrounding them.

In their religious worship and observances, there is no perceptible difference between them and the Burmese Shans, who are all Buddhists. The only idols adored are Gautama, and his sainted disciples, but they seem extremely ignorant of the principles and tenets of their own faith. The Khamptis assert, that from the opposite sides of a lofty mountain, called Doi Sao Pha, rising from the midst of four others of stupendous altitude, to the eastward of Assam, and separating it from their country, spring the Sri Lohit, the Lohit of Assam, or the Brahmaputra, and the Irrawadi, the last flowing South to Ava. About twelve miles to the North-east of Sadiya is Sonapur, formerly a strong frontier post of the Assam Government, beyond which the river ceases to be navigable, except to the canoes of the country. The surface of the Sadiya district consists chiefly of rich alluvial soil, admirably adapted to the cultivation of rice and other produce requiring moisture: it furnishes two crops annually, but the inhabitants seldom till a sufficiency of land, to ensure them against scarcity and famine.

Returning to the left bank of the Lohit, opposite the district of Sadiya, and where that of Sena Pati ends, lies the country inhabited by some tribes of Sinh-phos, accessible principally by two rivers, the Now Dehing and Theinga, which issue from the eastern and South-eastern hills, and fall into the Brahmaputra, about ten miles above the parallel of Sadiya.

The tract of country on this side of the hills, now occupied by the Sinh-pho tribes, was originally part of Assam, and inhabited by the Native subjects of that Government. These were dispossessed by the encroachments of their hill neighbours, commencing with a period of about forty years, until the latter eventually established themselves on the fertile low lands which they at present hold. As utter havoc and desolation marked their progress, they formed new settlements, bearing the names of their original seats in the high lands, or, more properly speaking, taking the designation of the chiefs, by which it appears their place of residence is always known, as Bísa Gaum, Daffa Gaum, &c. which are the patronymics of the chief, and are also used as the names of their principal towns. The Sinh-phos are nominally divided into twelve Gaums

or clans, and the term "The Twelve Chiefs," is used to express the collected body of the race. Of these, Bisa Gaum, Daffa Gaum, Satu Gaum, and Lattora, are considered the most influential, but have no authority, by right, over the others: each is governed by its own chief, called Ghai Gaum, and all act separately, in concert, or adversely, as circumstances and inclination may dictate: indeed, they seem to be held together by no bond of union or fraternity, and rarely to co-operate, except for some temporary purpose of plunder. Of late years they have taken advantage of the weakness of the Assam Government, and have carried their ravages with fire and sword beyond the capital, Rungpur, laying waste the whole country, as far as Jorháth, and carrying off the wretched inhabitants into slavery: both banks of the river have been swept by their depredations, and the number of captives stated to have been carried off appears almost incredible. Of these the greater part have been sold to the hill Sinh-phos; Khamtis, Sháms, &c., but many of those retained for domestic and agricultural services in the Assamese low lands, were liberated by the advance of the British detachments.

In the hills to the eastward of the pass to Ava, (the western hills being inhabited by the Nagas) and the country beyond them, are the original possessions of the Sinh-phos, whence, as before stated, they have descended into Upper Assam. In endeavouring to trace their manners, customs, and traditions, there is great discrepancy and contradition between the accounts of the different chiefs, although, in some material points, they agree.

The statement given by the Bísa Gaum, the most intelligent of them, appears to be the most consistent, and I therefore follow it, leaving the fabulous portions to be brought up in the Appendix (No. II.) By his account, in which he agrees with the others, the Sinh-phos were originally created and established on a plain at the top of the mountain, called Mujai Singra Bhúm, situated at a distance of two months' journey from Sadiya, between the country of the Bor Khamtis and the border of China, and washed by a river called Sri Lohit, flowing in a southerly direction to the Irrawadi: during their sojourn there, they were immortal, and held celestial intercourse with the planets and all heavenly intelligences, following the pure worship of one supreme being; but on their descending to the plains, they fell into the common lot of humanity, and having been obliged to imbrue their hands in the blood of men and animals, for subsistence and in self-defence, soon adopted the idolatries

and superstitions of the nations around them, since which period twenty-one generations have passed away.

In their migration from East to West (following the account of the Bísa Gaum,) they reached [after a certain number of stages (App. III.)] the stream called Turund Páni, near the old Bísa Gaum, or the Bíjanún-yua of our maps, which takes its rise on the South side of the range, called Patkoí, between Assam and the Shám country, running to Hukhung (old Bísa) Munkhung, or Mogaum, and eventually to the Irrawadi, where it takes the names of Samokhtura. The North side of the Patkoi hill is also said to give birth to the Nowa and Bori Dihing.

The leading chiefs in this expedition are said to have been those of Bísa, Kultung, Satao, and Nanla, whose descendants are now widely spread over the country.

They appear to have been independent of the powerful nations around them, and their form of Government to have consisted in a number of separate chiefships, or Gaums, of equal rank and authority, yet occasionally possessing comparative weight and influence, from superior ability or resources. The principal division amongst them appears to be into two classes. The Sinh-phos proper, and the Kákús, the latter being an inferior, though not servile race, and distinguishable only by name. The Sinh-phos, as far as I could understand, seem to be divided into four nominal castes, or tribes, called Thengaí, Mayang, Lubrang and Míríp.

When in their own country, and before the plunder of Assam furnished them with slaves, they appear to have cultivated their lands, and carried on all other purposes of domestic life, by means of a species of voluntary servitude, entered into by the poorer and more destitute individuals of their own people, who, when reduced to want, were in the habit of selling themselves into bondage, either temporarily, or for life, to their chiefs or more prosperous neighbours. They sometimes resorted to this step, in order to obtain wives of the daughters, and in either case, were incorporated with the family, performing domestic and agricultural service, but under no degradation. Sinh-phos, in this state of dependance, were called Gúm Lao. In the succession to patrimonial property, the mode of division, as described by them, appears most singular; the eldest and youngest sons dividing every thing between them; the eldest taking the landed estate, or place of settlement, with the title; the latter, the personals; while the intermediate brethren, where any exist, are entirely excluded

from all participation, and remain with their families, attached to the chief, as during the life time of the father.

As a striking example of this custom, the Gaums of Bísa and Satao, from whom I derived my information, adduced the case of their common ancestor, a Satao Gaum, seven generations back, who at his death, left three sons, from whom the families of the present Satao Gaum, Bísa Gaum, and Wakyait Gaum, are descended. Of these, Satao Gaum, the eldest, succeeded to the chiefship and land, while Wakyait Gaum removed to another part of the country, taking all the cattle and personal property, and leaving the Bísa Gaum to seek his own fortune; the descendants of this last have now acquired, by their own enterprize or ability, an ascendancy both in wealth and influence over the others.

The Gaum of Sátora is a Káku, but has elevated himself by his resources to an equality of estimation with the Sinh-pho chiefs, and is considered as amongst the most influential.

The religion of the Sinh-phos, appears to be a strange mixture of all the various idolatries and superstitions of the nations, with whom they have intercourse, and to have no fixed principles common to the whole tribe. The ostensible worship is that of Gautama, whose temples and priests are found in all their principal villages, and have evidently, as also by their own account, been borrowed from the Shâms and Khamtis. They are also in the habit of deifying any Sinh-phos whom they may chance to kill in action, during a fray with some other tribe or village, and of sacrificing to them as their penates; and in every case of emergency, such as famine, pestilence, or danger, they make offerings to the Megh Deota, god of the elements, of clouds and stones, (called also Nigschis) sacrificing buffaloes, hogs, and cocks. The skulls of buffaloes so offered up are, afterwards, hung up in their houses, in memorial of their piety.

Polygamy, without restriction, is followed by the Sinh-phos, and they make no distinction between the children born to them of Assamese or foreign mothers, and those of the pure Sinh-phos. They reject, with horror, the idea of infanticide, under any shape or pretext.

The custom observed in their funerals varies according to the quality of the deceased, and the manner of his death. Those of the lower classes being buried almost immediately, while the chiefs are generally kept in state for two or more years, the body being removed to some distance during the progress of decomposition, after which it is placed in a coffin,

and again restored to the house, where it remains surrounded by the insignia of rank used during life.* The body of the Gaum of Gakhind, was found by us in this state, on taking possession of the stockade in June last, and had lain there more than two years.

The reason assigned by them for this custom is, to avoid the danger of drawing down on them feuds with the more remote branches of the family, spread in different directions, who would consider it a deadly insult, were the corpse to be interred without due intimation being given, and they thus delay performing the final rites until replies shall have been received from every member entitled to that compliment. At the proper time, the corpse is interred, and a monument of earth, confined by bamboo matting, of a peculiar form, erected over it.

If the deceased met his fate by any violent means, they also sacrifice a buffaloe, the head of which they fasten as a memorial in the centre of a large cross of wood of the Saint Andrew's form—but, if on the contrary, the case is one of natural death, they omit this ceremony, saying, that the gods have voluntarily taken him to themselves.

The native arms of the Sinh-phos are the Dhao, a short square-ended sword, an oblong wooden shield, the spear and bow, but they are partial to muskets of which they have a few, but are unable to preserve in an efficient state. The soil of the Assamese lowlands, occupied by the Sinh-phos, is extremely fertile, consisting almost entirely of a surface of rich alluvial earth, on a gravelly basis. It yields two crops annually, and is adapted in an admirable degree to rice cultivation, being well watered by numerous streams. The sugar-cane, indian-corn, &c. &c., would also thrive. The depopulation of the district, and the predatory habits of its present occupants, however, have materially diminished cultivation, and the greater part of the country is now overrun with the rankest jungle—nor is this evil likely to be remedied under a considerable lapse of time, the assumption of their Assamese slaves having reduced the Sinh-phos to the necessity of their own exertions, either in the raising or purchase of grain. To the former, though attended with little comparative labor from the natural fertility of the soil, the present generation seem very averse, never personally engaging in either pastoral or agricultural pur-

* In the Narrative of Captain Cook's first voyage to Otaheite will be found a remarkable coincidence between the funeral ceremonies of the Islanders, and those now described of the Sinh-phos.

suits, which were conducted by the slaves, who bore a proportion to their masters, of at least fifty to one. The Sinh-pho chiefs, seem, at the same time, fully sensible of the value of the possessions they have acquired on the fertile plains over their original seats in the hills, and I have no doubt, but that seeing the necessity of submitting, they will settle into order and tranquillity, and that, by a gradual amelioration in their habits and character, their descendants may become peaceable and valuable subjects.

The post of Sadiya is nearly encircled, at a distance of from thirty to fifty miles, by lines of mountains, behind which are more lofty ranges covered with eternal snow—from which the Dihong and Dibong Rivers flow from the North, the Lohit East, and the Theinga and Now Dihing, more to the southward, where the hills decrease in height, and present the pass to Ava, of which I shall speak hereafter.

The portion of hills of the lower ranges, between the heads of the Dihong and Dibong, I have already described as the territory of the Abors; more to the eastward of them, on the line of hills including the opening of the Brahmakund, is the district of Míshmís, another numerous hill tribe, differing only in name from the others. (Appendix No. IV.)

Beyond this mountainous region extends the grand field of enquiry and interest, if any credit be due to the opinion universally prevalent here respecting the nations inhabiting those tracts. The country to the eastward of Bhot, and the northward of Sadiya, extending on the plain beyond the mountains, is said to be possessed by a powerful nation called Kolitas, or Kultas, who are described as having attained a high degree of advancement and civilization, equal to any of the nations of the East. The power, dominion, and resources of the Kulta Raja are stated to exceed by far those of Assam, under its most flourishing circumstances, and in former times, a communication appears to have been kept up between the states, now long discontinued.

To this nation are attributed the implements of husbandry and domestic life, washed down by the flood of the Dihong beforementioned. Of their peculiar habits and religion, nothing is known, though they are considered to be Hindus, a circumstance which, from their locality, I think most unlikely, and in all probability arising merely from some fancied analogy of sound, the word Kolita being used in Assamese to signify the Khaet caste. There is said to be an entrance to this country from Upper Assam, by a natural tunnel under the mountains; but

such is obviously fabulous, at least to the assumed extent. All accounts agree in stating, that a colony of Assamese, under two sons of a Bara Gohein, about eight generations back, took refuge in the country of the Kolitas, on the banks of the Sri Lohit, whence, till within about two hundred years, they, at intervals, maintained a correspondence with the parent state. They were hospitably received by the Kulta Raja, who assigned lands to them for a settlement, and they had naturalized and inter-married with the inhabitants. Since that period, however, no trace either of them, or of the Kultas, had been found until the flood of the Dihong exhibited marks of their existence, or of that of a nation resembling them in an acquaintance with the useful arts.

The plains to the eastward of the Kulta country, beyond the Míshmís, is well known as the country of the Lama, or the Yam Sinh Raja, a nation also independent, and said to be frequently engaged in hostility with Kultas. The inhabitants are described as a warlike equestrian race, clothed something after the European manner, in trousers and quilted jackets, and celebrated for their breed of horses. There is a pass to the Lama country, through the Míshmí hills, a little to the northward of the Brahmakund, a journey of twenty days, which was described by a man, who accomplished it in seventeen: it is practicable only to a mountaineer, and appears to present almost insuperable difficulties. He states, that on two occasions, the traveller is obliged to swing himself across precipices by the hands and feet, on a rope of cane stretched from rock to rock. (Appendix No. V.)

To the southward of that tract, and eastward of the Brahmakund, lies the country inhabited by the Bor Khamtis, from whom the Khamtis of Sadiya are sprung. They are Buddhists, of the same worship as the Burmese, Shams, &c., and claim divine origin. Through their country, they state, the Irrawaddy flows towards Ava, taking its rise from the hills, dividing them from Assam and the Míshmís. I have been furnished with a route from Sadiya by the Theinga. (Appendix No. VI.)

The principal difficulty which I have experienced in tracing the route from Rungpur into Ava, from various sources of information, has arisen less from any actual differences of statement than from the discordant dialects and mode of pronunciation of the people. Thus, although, the Assamese, the Khamtis, Sinh-phos, and Burmese, from whom I made enquiries, all seem to agree as to the general distance and direction, yet each gave a different route, and seemed to have no acquaintance with those of the

others. Two rallying points, however, became established, namely, Namrup, or Namhog, second of this map, on the side of the hills, and old Bísa or Bíjanun Yua, on the other.

The first correction requisite in the Burmese route, laid down in the map, is at the commencement, quitting Rungpur, whence the road should take a north-easterly direction, until it reaches the entrance of the pass near Bísa Gong, at the junction of the Bori and Nowa Dihing Rivers. This road, after crossing the Disang, near Bor Hath, and the Bori Dihing at Jypur, skirts the northern base of the Naga hills, and follows the course of the Bori Dihing; the names of many stages in the map being clearly traceable. Thus, Borhaps Chowka, for the Assamese Bor Hath Chokey; Tapan, the Tipang Nala, Tuangria and Namhog, for Kuonkreea Namroop, Phaka Yua for Wakyet, and Namhog second for the valley and post of Namrup, in the entrance to the passes. This should more properly be placed about the twenty-seventh degree of north latitude, and 95° 40′ east longitude. Tapha Kamyua I conclude to be old Daffa Gaum, which is situated in that direction. Nun Nun is common to both. Poa-puo is the Patkoi hill, near which the original boundary of Assam and the Shám country was fixed. Thíkítaon (a high hill) is called by the Khamtis Takka, and the Thekkee Nala, Tashyait. Beejanoonyooa, or Húkhúng, of the Burmese, is old Bisa Gaum, the original seat and possession of the Sinh-phos of that tribe and name, where some of them still remain, and preserve their allegiance to the present chief, whose influence extends through the entire intermediate space in the passes. The distance from Námrup to old Bísa, notwithstanding the difficulties of transit, is accomplished by all in ten days, by marches described as from day-break till noon. It has been regularly traversed for a series of years, and is universally asserted to present no difficulties of any formidable nature: indeed, the greater part is described as being excellent, winding round the high hills, and, except in one or two instances, with no very great angle of acclivity. Water is in abundance throughout, except at two places, the fourth halt from Námrup, and at the hill of Thíkítaon, where it is scarce, but not altogether deficient. Further particulars of this route, from different authorities, will be found in the Appendix No. VII.

APPENDIX.

No. I. *Page* 5.

Villages of the Abor Chiefs, on the lower range from the West to East.

1. Taní Gaom, nearly north of Silan Mukh, between the Bingoomade and Salang Hills.
2. Tasí Taín Gaom, between the Salang and Dokhang Hill.
3. Takbang Gaom, on the Alluremah Hill.
4. Takrúm Gaom, on the Bohmadí Hill.
5. Bassínpong Gaom.
6. Tabút Gaom.
7. Lútung Gaom.
8. Tibang Gaom.
9. Lallí Gaom.
10. Tangúpísang Gaom.
11. Mía Rekhía Gaom.
12. Tengí Pah Gaom.
13. Kangírn Gaom.
14. Tepokh Gaom.

No. II. *page* 7.

By the Bísa Gaom, or Chief of the Sinh-pho clan of Bisa.

In the beginning, the Great Gossein (the Supreme Being,) created man, and regarded him with especial kindness and favour. He gave him the whole earth to dwell in and enjoy, but forbade him bathing or washing in the river called Rám Síta, under a threatened penalty of being devoured by the Rákhas, (Demon,) and totally destroyed as the forfeit of his disobedience. That if, on the contrary, he refrained, Rákhas should have no power over him, and he should inherit the earth eternally.

Mankind, however, soon disobeyed the injunction, and the whole race was devoured by Rákhas, with the exception of a man called Sírí Jía and his wife Phaksat.

These were seated under a tree, when the Gossein caused a parrot, perched on a bough, to speak, and give them warning to avoid the north and fly to the southward, by which they would escape from Rákhas's hands. The man Sírí Jía obeyed, but Phaksat took the other road, and fell into the clutches of Rákhas. When Sírí Jía saw Phaksat in the power of the Demon, he was divided from them by the river Ram Síta, the forbidden stream, and forgetting, or disregarding the prohibition, he immediately crossed it to her rescue, and was also taken by Rákhas, who prepared to devour them. In the act, however, of lifting them to his mouth, a flame issued from all parts of his body, and consumed him on the spot, since which time no Rákhases have been seen on the earth, in a palpable shape.

The great Gossein having then fully instructed Sírí Jía and Phaksat in all useful knowledge, placed them on the Mújía Singra-bhúm hill, and from them, the present race of men are descended.

By the Satao Gaom, or chief of the clan Satao of Sinh-phos.

The Sinh-phos came originally from a place situated two months' journey from Satao Gaom, and peopled the earth.

The race of man having killed and roasted buffaloes and pigs, which they devoured, without offering up the prescribed portions in sacrifice to the gods, the Supreme Being, in his anger, sent an universal deluge, which covered the earth, and destroyed the whole race of man, with the exception of two men called Kung-litang and Kuliyang and their wives, whom he warned to take refuge on the top of the Singra-bhúm hill, which remained above the waters: from them the present race are descended.

A brother and sister belonging to a race superior to man were also saved. The Supreme Being directed them to conceal themselves under a conical mound of earth, taking with them two cocks and nine spikes of bamboo, the latter they were to stick through the sides of the mound, and pull them out one by one daily. They did so for eight days, but the cocks took no notice. On drawing out the ninth, the light appeared through, and the cocks crew, by which they knew that the waters had subsided. They then went out, and as they were in search of fire, they encountered the old woman belonging to the Demon Rákhas, who endeavoured to seize them: they, however, effected their escape to the ninth heaven, where they were deified, and are sacrified to by the Sinh-phos with cocks and pigs.

The name of the brother is Kai-jan and the sister Gíung.

By the Sadiya Khawa Gohein, the Khamti Prince of Sadiya.

The race of men having fallen into every kind of iniquity, the Supreme Being, "called by us Soari Mittia, but worshipped by all nations under different names,"* determined on destroying it, and creating it anew. With this view, he gave warning in a vision to four holy Goheins, directing them to take shelter in the heaven. Meru (called by the Khamtis Noi Sao Pha) had then caused seven suns to appear, which burnt up the whole earth, and destroyed every thing on it. After which there came violent rains which washed away all the cinders and ashes, and refreshed and re-fertilized the earth.

The four Goheins then descended, and re-peopled it with a new race.

No. III. *Page* 8.

Migrating from east to west, the Sinh-phos first established themselves on the plain of Kundúyúng, on a branch of the Sri Lohit.

Thence to the hills, called Nangbrang-book, which are situated south-east from Húkhúng (or Bíja-nún-yúa of the map) east of Bhanmo, and four or five days' journey from the Chinese border.

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* Literal interpretation of his words.

Thence to the Kúltobúng Hill.

Thence to Písa Paní eastward of Húkhúng.

Thence to Múning Paní, where they had an action with the Burmese and Shams, and were victorious.

Thence to Túkúng Paní and old Bísa, or Húkhúng, (Bíja-ńún-yúa.)

No. IV. *Page* 11.

The Villages of the Míshmís from west to east.

1. Padú Míshmí near the Díbong N.
2. Gurai Míshmí.
3. Tamagar.
4. Dígarú Míshmí, north of the Brahmakund: thence proceeding easterly, within the hilly ranges, are—
1. Misa Gaom.
2. Kursang Myyung, a large populous place: to the district of the Bor Míshmís, or more powerful, and thence to the confluence of a river called Mamní, with the Sankú, which runs south, through the Khamti country to Ava, on the banks of which are the Míshmí villages of
1. Námnu Gaom.
2. Darku Gaom.
3. Kundon Gaom.
4. Bísan Gaom.
5. Bangu Gaom.
6. Sikyuet Gaom.
7. Ninkhepoh Gaom.
8. Kúsoul Gaom.
9. Buding Gaom.

No. V. *Page* 12.

Route through the Míshmí hills to the country or the Lama.

Quitting the Brahmakund, cross a cataract of the Lohit, by a rope of cane suspended across the precipice, to Philsa Gaom.

2. Cross the Tidang, also by a rope bridge, to Philsa Gaom.
3. Nittingbang Gaom Míshmí.
4. Sanga Gaom.
5. Tasi Tibang Gaom.
6. Leba Gaom.
7. Mídu Arwa occupying seventeen days: thence three to the Lama city and fort on this side of the Sri Lohit.

No. VI. *Page* 12.

1. From Sadiya to the mouth of the Theinga, and cross the Brahmaputra.
2. On the left bank of the Theinga to Satao Gaom.

3. To Simum Gaom.
4. To Satora Gaom.
5. To Laffa Bari.
6. Cross the Theinga and Khope Rivers.

Hills.

7. Pass between the Lashang and Chiklai hills, and cross the Khope Nala to the Phukkan Nala.
8. Pass the village of Didamria Beter, and cross the Tumut Nala to the Tangut Nala, (all these Nalas run into the Now Dihing in the hills.)
9. Cross the Tappan to the Tamgut.
10. Pass the Namshung hill, and cross the Mukkotaí Nala to Kamku Gaom.

11. Cross the Daffa Páni, pass the village of Bujan, and cross the Nalas of Juki Páni, Jan Paní, Khope Páni, Lua Páni, Namaug Páni, and the Dihing, to Phakhung Gaom and Nimna Gaom.
12. To Námshí Páni.
13. To Suoppang.
14. To the Bor Malúks.
15. To the Ishang hill, thence three days to the Bor Khamti's country; the route, during the last stages, being very winding and between lofty hills.

No. VII. *Page* 13.

From Nánvup to
1. Khacka.
2. Nampaí.
3. Nun Nun.
4. Sakyep.
5. Patkoí (Poa Puo.)
6. Kkoí Chu.
7. Kathang.
8. Kuah.
9. Takkah (Thíkítaon, a high hill.)
10. Hatak.
11. Tashyíet (Thekkí.)
12. Hukhúng, or old Bísa Gaom, (Bijanoon yooa,) where the hills end, and the route passes through a fine, populous, cultivated country: crossing the Nampeo Nala, the Tunkoh Nala, (Teaonka of the map), and descending the small hill of Chambuo (Mount Samu,) to Khungloh, cross the Namkung Nala, (Nampua,) in all eight days from Bísa or Bijanun to Mungkúng or Mogaum, from whence are both open road and water transit to Amerapura.

MEMOIR

OF A

SURVEY OF ASSAM AND THE NEIGHBOURING COUNTRIES.

EXECUTED IN 1825-6-7-8.

BY LIEUTENANT R. WILCOX.

In the following Memoir I propose to give a detailed account of the progress of our Geographical Discoveries on the N. E. Frontier from the time when our armies advancing in that direction opened to us countries of which we had till then a very imperfect knowledge.

Narratives of some of the journies have been already published, and much of the new information has been included in a paper in the 16th Vol. of the Asiatic Researches: but the former are scattered in the Newspapers or Periodicals without connection to enable the enquirer to collect the scattered gleams of information into one common focus, while the latter, including only the results obtained by one of the individuals engaged in that quarter, and applying also to statistic inquiries; gives necessarily an inadequate idea of our acquisitions in Geographical information properly so called, as it also stops short of the date at which our enquiries terminated. This appears to have been felt by the Society, who have expressed a wish in a note attached to that paper by their Secretary, that some task similar to the one I propose to myself should be undertaken. The interest too excited by the question of the identity of the Sanpo and Brahmaputra, evidenced by the notice taken of the subject in Europe, seems to call for the execution of such a task: and I have therefore been induced to draw up the following Memoir.

I should have been well pleased to have seen the task fall into other hands, and I have delayed undertaking it in the hope of some one better prepared anticipating me, yet I would not be understood to disqualify myself more than necessary. Having been on the spot from the beginning, at first an interested observer, and latterly employed in exploring myself much of the Terra incognita of that quarter, I consider that I

ought to be able to give a connected view of the progressive steps made, as well as to supply many particulars necessary to the full comprehension of the subject, not yet generally adverted to.

In October 1824, several of the Officers employed in Revenue Surveys were taken from those duties, and placed (to continue during the war) under the superintendence of Major Schalch, in order that accompanying the several divisions of the army and receiving his instructions, they might derive advantage to the utmost practicable extent of the opportunities so suddenly and unexpectedly opened of pushing our investigations beyond those barriers which the well or ill-founded jealousy of our Eastern neighbours had hitherto opposed to us, and which we had till then no immediate hope of surmounting.

In the distribution I was appointed to act with Captain Bedford as his Assistant, and our province was Assam. Besides the instructions given generally to his corps by Major Schalch, (as conveyed in a circular letter) Captain Bedford was verbally directed to consider the Brahmaputra as the chief object to which his attention should be directed. He was to endeavour to unravel the mystery in which was enveloped each notice or tradition respecting its fountain head by proceeding up its streams as far as the influence of the neighbouring force, or the safeguard of a detached escort might permit.

We arrived at Goalpara, on the frontier of Assam, in the latter end of January 1825, immediately after the capitulation of the Burmah force at Rungpur, and we were then eager to join the Head Quarters in full expectation of an attempt being made to advance towards Amarapura. We were already making anxious inquiries respecting the source of the Brahmaputra, and we were given to understand that the Assamese persisted in a common declaration that it rises in the East beyond their territories. We were told of a cataract, which imagination perhaps, rather than report, founded on respectable information, long continued to magnify into a splendid fall of the whole river from the bordering ridge of mountains.

Mr. Scott,* indefatigable and ardent in the cause of scientific research, had in the meantime, on arriving at Rungpur, caused Lieutenant Burl-

* Ensign (now Colonel) Wood's Survey reached no further than Rungpur, and he leaves the space beyond a perfect blank. He accounts for the paucity of his Geographical information beyond the mere line of the river, by the difficulties he laboured under in holding intercourse with the Natives.

ton to be detached, to survey the river beyond as far as practicable; but there no longer existed such extreme doubt about the direction and distance of the navigable part of its course. The Natives knew well that the boats of Bengal could not pass more than one day's journey beyond Sadiya; (in lat. 27° 48′ long. 95° 40′) they spoke confidently (and their information could no longer be doubted) of the Brahmakund, the origin of the river, being situated in the East; and, indeed, they had presented a Map drawn in their own incorrect style, showing the situation of the notable villages or districts, and exhibiting the various nullahs feeding the Brahmaputra within their limits. It was afterwards remarked that in this production, the Dihong and the Dibong were not distinguished from other tributary streams.

The commission with which Lieutenant Burlton was charged was executed by him in a highly creditable manner. With a surveying compass only, and unfurnished with any instrument for measuring distances, he surveyed the river to Sadiya and a short distance beyond, and subsequent measurement has detected but little error in the Map he made.

In the *Government Gazette* of 9th May 1825, appeared an Extract from Lieutenant Burlton's letter, giving an account of this expedition; it is dated "On the river Burrampooter, N. lat. 27° 54′ E. long. 95° 24′ March 31st 1825."* He reports, that he had that day got as high up the river, as it was navigable: its bed, he says, was a complete mass of rocks,† with only a depth of three or four feet water in the deepest part, the rapidity of the current was also so great, that no boat could track against it, putting the danger of striking on the rocks out of the question. He considers it as about the size of the Kullong River, (one hundred and fifty yards across) and the extreme banks as being not more than six hundred yards apart. Lieutenant Burlton regrets that he could not proceed further either by land or water. It was represented to be at least ten days' journey to the Brahmakund, and he had but a few days provisions left—what he had learnt respecting the course of the river above, was "that it runs easterly till it reaches the lowest range of mountains,‡ (Lieutenant Burlton could see the range, and supposed it

* The true place was about Lat. 27° 49′ and Long. 95° 52′.

† Not rocks in Situ, but rounded stones and pebbles brought down from the mountains in the rainy season.—R. W.

‡ It is hardly necessary to observe, that Lieut. Burlton means *from the East*, or *from* the lowest range of mountains *westerly*.

to be about fifty miles distant,) where it falls from a perpendicular height of about one hundred and twenty feet, and forms a large bottomless bay, which is called the Brahmakund." Above the low range are some high mountains, which are covered with snow, and from the narrowness of the water, he imagined, that the source of the Brahmaputra must be there, as it seemed very improbable such a small body of water could run the distance it is represented or supposed to do.

From what the Natives said respecting the Siri Sirhit,* or Irrawaddy, Lieutenant Burlton was inclined to think that that river rises at the same place.

The impression made by the foregoing account is apparent in the remarks made upon it by the Editor of the *Government Gazette.* Discussing Rennell's inference of the connexion of the Sanpu and Brahmaputra Rivers, he says, "The Sanpu where left by the Chinese is called a very large river, and the name itself Sanpu, is said to imply the river par excellence. How happens it then upon entering Assam to have lost all claim to such a character, and to be little more than a hill torrent, with only three or four feet water in its greatest depth." Had Lieutenant Burlton added an account of the discharge of the river, according to the sections he took below the Búrí Dihong mouth, and near Sadiya, this idea of the character of the river could never have been formed. For the quantity of water discharged per second in the former place, was found to be 86,727 cubic feet per second, and of the sacred Brahmaputra, or eastern branch passing Sadiya, 32,413 feet in the same time. It is however to be observed, that there had been a considerable rise before the latter measurement was made, and that divided as the river is in that part of its stream near Rungpur into many channels, it is probable that the former did not embrace the whole river, or that some of the minor channels had been omitted, being inaccessible.

The next notice that appeared is in the *Government Gazette,* 9th June, and it is important to notice it, if merely to show that attention was not yet directed to the navigation of the Dihong, though it is mentioned in these terms: "The river (*i. e.* Brahmaputra) washes Silání Múkh or Múr, so called from the numerous stones and fragments of rock washed down from the hills by the Dihong and Dibong Rivers, which soon after empty themselves into the Lohit; these rise and flow from perceptible

* It was so printed, but Lieut. Burlton must have printed and probably wrote the Seerec Lohit, or Sri Lohit.

openings in the high chain of hills to the northward, and considerably contribute to the mass of the river, which after passing above their mouths, diminishes materially in bulk and importance." The writer further says, "But the object of greatest interest to topographical science is a clear and distinct opening in the lower lofty ranges bearing due East, behind which is pointed out by all ranks and classes, the Brahmakund, or reservoir, whence flows the Brahmaputra, and distant from hence not more than forty or fifty miles—six day's journey. The stream is described as taking its rise from a circular basin or well in the side of the mountain beneath the snowy region, while behind and above it are stupendous ranges of impracticable transit."

In the mean time Captain Bedford and myself had reached Bishanath, where directions were received in a letter from Colonel Richards, commanding the Force, to survey the Búrí Lohit, or old channel of the river, to the head of the Majholi Island, and as both Officers might be profitably employed, we were directed to separate, one of the two re-surveying in progress to Rungpur, the Dihing, or southern branch.

I may here endeavour to elucidate a point which I observe has caused considerable difficulty—I have it on the authority of the present Bar Gohayn of Assam, corroborated by the evidence of other well-informed Assamese whom I had questioned, that before the remarkable flood from the Dihong altered entirely the state of its channels, and the direction of the principal body of the river, the Dihing did not disembogue itself where it does now into the Brahmaputra, but turning to the South-east received the Disang, and Dikho, the Jazí, and Disaí River, and was discharged into the great river near Mahura. A peninsula, or rather long neck of land then existed, and the channel of the Dihing was then in the bed of that branch still retaining the name. The great river from near Siláni Múr to Sisí, flowed in a bed which still continues to fill in the rains, though it is of diminished size to the north of the present channel. It is called the Búrí Sútí, or Sútí Lohit. The Búrí Lohít, since this singular division of its former supply of water has become of so little consequence that above the junction of the Subanshíri, it is barely navigable in the dry season. The division of the waters of the *Dihing* is an event of much later date. It is said that the passage through the low land in the direction of Sadiya, was aided by some rivulet draining the jungles, that an accumulation of stones in the vicinity of the Kusan hills, was the immediate cause, and that the opening now called the new

Dihing, was very gradually enlarged by the influence of successive rains, causing an equivalent diminution to the ancient Dihing, the old communication with which has no water in the cold season, and indeed, the name of Búrí Dihing might fairly be dropped in favor of the Namrup, from which it derives its present supply. Whether there existed a channel of communication between the Dihing and Lohit near the spot where the Búrí Dihing now meets the latter, I never could satisfactorily learn.

But to return from this digression, Captain Bedford chose the Búrí Lohit, as it presented novelty, and left me to retrace Ensign Wood's steps towards Rungpur: he completed his survey; but I met with an unfortunate accident in the progress of mine: about half way from Bishanáth, my map and field book, with the greatest part of my property, were lost by the sinking of my boat. Captain Bedford afterwards continued his route towards Sadiya, making a more accurate survey than Lieutenant Burlton had the means of doing; and before the expiration of the month of June, he had surveyed not only the whole distance on the great river from Bishanáth to Tenga Páni, but having accompanied Captain Neufville on the expedition against the Singfo Chiefs, he also added a hasty survey of the Noa Dihing.

Soon after my arrival at Dikho Múkh in April, Colonel Richards permitted me to accompany a party of the 46th Regiment, which was to proceed up the Disang River to Borháth, to protect the Assamese of the intermediate district in advance of Rungpur, from incursions of the Singfos, who had lately, in considerable strength, made a very daring and successful incursion close in the neighbourhood of the force.

After passing Bel Bárí on the Disang, I found the banks of the river clothed with an impenetrable tree forest, and the distances I was compelled to estimate in time, guided by the experience I had of the progress of my boat at those places where it was practicable to use my perambulator. About five miles by the river below Borháth, we first encountered the shallow rapids formed by the accumulation of the pebbles brought down by the stream, and further progress in Bengalee boats was impossible; but one of the Assam guides offered to conduct me to Borháth; and after a most laborious march through jungle, where no trace of a path was to be found, I reached the place.

Near to Borháth, are several salt springs, whence a considerable quantity of salt used formerly to be obtained. Those at present worked

were too far removed within the Nága hills, for me to visit them ; the evaporation is carried on in green bamboos, and the salt presented was generally of a grey colour, extremely hard and compact, having the form of the bamboo in which it had been boiled, and possessing the radiated structure in perfection.*

After passing eighteen rapids in an attempt to survey the river beyond Borháth I desisted ; the hills which I had then an opportunity of examining, for they were generally covered with soil to some depth, were either of grey or yellow sandstone : the former of a close hard texture and the latter coarse, and when exposed to the action of the waters converted speedily into clay ; coal is found at no great distance.

I was told that the produce of the Nága hills is limited to ginger, black pepper, a few vegetables, iron and salt.

With the aid of an elephant and a party of coolies, I attempted to drag a canoe across to the old Fort of Jypur, but on my arrival there I found my boat so much injured by rough usage in the way through the close forest that it was no longer serviceable. An Assamese captive had fortunately made his escape that day from the hands of the Singfos, and having robbed them of a canoe, in addition to such trifles as he could conveniently seize and carry off in it, he presented himself to our notice, singing most lustily and merrily the song of liberty, and he readily yielded his prize to me. In his canoe I dropped down the Búrí Dihing to its mouth, taking the bearings of its numerous reaches, and noting the time. I mention this incident as a note of the mode in which the survey was performed. The Búrí Dihing wanders through a forest as dense as that of the parallel River Disang, and the country between the two at that time was said to be an inhospitable tract of rank jungle, without a vestige of inhabitants.

The Fort of Jypur I found so much overgrown with high grass jungle, that I must have passed it unawares, had not my guide pointed it out. It is a square of three hundred and fifty yards, with a dry ditch of six feet deep, the earth from which is thrown up in the form of a wall or bank six feet high.

My next employment was a survey of the River Dikho, which was made under more favorable circumstances for arriving at accuracy, as the distance by the bund road both to Kowarpara and to Ghergong was

* May not these salt springs belong to the new red sandstone formation ?

surveyed, and hills determined in position from this base served to correct the remaining portion, but here as in the Disang, after arriving within a certain distance of the hills, I found it impossible to proceed: it is similar in character to the before named rivers.

As my object is to give a connected view of the several steps of our discoveries, I must not omit to mention Lieutenant Jones's Journal of his march from Rungpur with the detachment, which I found at Borháth on my arrival there.

The Journal was noticed in the *Government Gazette* of 23rd of June, and its contents, though interesting, scarcely require repetition, as they chiefly describe the embarrassments of a party moving on bad roads through a jungly and swampy tract intersected by swollen rivers. For the first fourteen miles, they encountered swamps, jheels, and tree jungle; then, after coming on a good broad road, and proceeding one mile along it, they found a fine stone bridge, of three arches, in good repair, over the Teezakhana Nullah. The broad road continued (occasionally broken) through a more open country with the Nâga hills on the right at no great distance. The Chipera River was crossed by the help of a party of Nágas, who are very expert in felling timber, and a raft was constructed for passing the baggage over the Tsokak, which could not be forded by elephants.

On the 20th of June, appeared some further information, derived from Lieutenant Neufville, who, by means of some Khangtis, (Khamtis) originally from the Bor Khangti country, had been enabled to add to his former account, that "The Bor Khangti country, before remarked, lies in a direction from this spot a little to the south of east on the other side of the high snowy hills of the Brahmakund. These ranges he now finds extend back to a far greater depth than he had at first supposed, and he is assured to a far higher altitude than any of those now visible.* The Burrampooter or Lohit, accessible only as far as the reservoir of the Brahmakund, (unless perhaps to the hill Meeshmees) takes its original rise very considerably to the eastward, issuing from the snow at one of the loftiest of the ranges, thence it falls a mere mountain rivulet to the brim of the Brahmakund, which receives also the tribute of three streams

* To the north east of Sadiya, there are higher mountains than those visible from the station—but directly towards the sources of the Brahmaputra, it does not appear that there are any higher.

from the Meeshmee hills, called Juhjung, Tisseek and Digaroo.* From the opposite side of the same mountain, which gives the primeval rise to the Burrampooter, the Khangtis state (as they had before stated to Lieutenant Burlton,) " that the Irrawaddy takes its source running south, intersecting their country and flowing to the Ava empire. This theory of the sources of the streams is thought by far the most probable ; and it agrees more with the general accounts and the geographical features of the country." A little to the northward of east the opening of the Brahmakund is another less defined dip in the lofty line of the Meeshmee hills, through which Lieutenant Neufville has received a route, accessible to the mountaineers, of twenty days to the country of the Lama.†

It would be unjust to omit in these details notice of a service rendered to geography by Lieutenant Bedingfield, when communication was opened with the Burmahs after the fall of Rungpur ; from several compared accounts he compiled a map of the Kenduen River, from the latitude of Amarapura to its sources, which is no doubt very nearly correct in its general features and also in many particulars. Subsequent accounts derived from Singfos, have enabled us to improve on the central part and add more topographical detail respecting the time of route of the Burmahs, nor ought I to omit an account of a journey into Bhutan, performed by a Persian, under Mr. Scott's orders, and from which we learn principally that a route from Gohati to Múrsing gaon, in a northerly direction, or a little inclining to east, crosses the Bhúrúli River, which falls into the Brahmaputra, opposite Kaliabar, Múrsing gaon is situated on the left bank of the Bhúrúli. The information collected by him from respectable Towang people, places that town three days farther north on the Bonash River, which joins the Brahmaputra at Goalpara.

The possession of the whole of Assam, by giving us access to so many points for inquiry on the north bank of the Brahmaputra, appearing now

* The only stream falling into the Kund or near it, is the Deopani, a mountain hill. The Digarú falls into the Brahmaputra —— miles west of the Kund, on the north bank the Mitee is the nearest, falling in from the south about half mile beyond. The Tisseek and Juhjung, I do not recognise.

† Given in the 16th Vol. of Researches : the number of days I suppose nearly correct, but I cannot recognise more than one of the names of the stages, *i. e.* Tidong for Tiding River, " which might be reached in one day from the Kund by an active Meeshmee," but the first cane bridge across the river is, I think, above the confluence of the Tiding, and in that case the Tiding would not require to be crossed in proceeding eastward. The route to the Lama country generally used is on the banks of the river.

so much in favour of an attempt to solve the geographical problem of the connexion which this river has with the Sanpo, I was detached from the Assam force, by Colonel Blacker, and instructed to act under the guidance and support of Mr. Scott, in the prosecution of this most interesting inquiry, and for the purpose of consulting with that gentleman, was directed to proceed to Goalpara.

I received Colonel Blacker's instruction at Goalpara. Mr. Scott had, in the meantime, neglected no opportunity of gathering information, but the Assamese proved fully as incurious as our subjects of Hindustan, and we found that even in directing our attention to the points best fitted for our first attempt, we should receive scarcely any aid from the best informed amongst them. As a specimen of the style of the few traditions on the subject which they were found possessed of, I shall give an extract from one of their books furnished by Boga Damra Phokend,* who, we were told, is rich in the possession of such lore.

Judging from this wild story as a specimen, it might be inferred, that the Assamese account of the singular rise of the Dihong in 1735 (?) is not well authenticated. Not only, however, have we the evidence of their histories for this fact, but sufficient proof exists in the great alterations in the state of the rivers which then occurred, as I have before noticed. The Abors and Míris ought to be in possession of all the facts relative to this occurrence, as they were the first observers of it, and the latter tribe having their villages on the east bank of the Dihong in the plains desolated by it: but they deny all knowledge of these remarkable circumstances; and indeed the Abors, when questioned about the elephant trappings, (or shackles for binding elephants) as I believe the statement in history gives it, immediately accounted for the appearance (of the latter) by the resemblance to some of their own implements.† The Abors gave a reason for the rise of the Dihong; but they did not speak confidently; they thought it was occasioned, by the river having suddenly penetrated, at a sharp turning, the earthy barrier opposed to it, or overturned a ledge of rocks. That this enormous body of water, having so large a fall in that part of its course southward through the Abor mountains, must exert an extraordinary force, cannot be doubted.

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* Boga Damra, white calf, a jocular name given here by the common people: his real name I do not recollect.

† The writer in the 16th Vol. Asiatic Researches, appears to consider this tradition as of some authority.

After some deliberation as to the route I should attempt, Mr. Scott recommended that I should try the Súbanshiri before proceeding further eastward, and I started with a liberal supply of red cloth, beads, and such other articles as were likely to please the mountaineers. Having arrived at its mouth on the 28th November, I commenced my survey on the following day; but I was disappointed to find my further progress impeded on the sixth day by rapids, occasioned by the accumulation of round stones brought down from the hills, where, from its mouth, I had got but twenty-two miles latitude to the north.

Some of the Chiefs of an Abor tribe had arrived at this time, to make their annual collections from the district north of the Búrí Lohit. They claim the whole of those plains as their domain, but whether this claim is the origin of their exactions, or whether the imbecile government of Assam had allowed to grow into a confirmed custom, an evil which they could not counteract, does not appear; however, from the Bhúrúlí to the banks of the Dihong, the whole of the hill tribes pretend to similar rights, and have never been interfered with, when, at the accustomed season, they have descended from their strong holds and peaceably taken their dues from each separate dwelling.

I had an interview with Taling Gam, the most powerful of these Abor Míris, and my presents of rum and cloth wrought so well with him, that I entertained hopes of starting for his village in his company, and had arranged to move off in canoes, to have the advantage of water conveyance for my provisions the remaining navigable portion of the river, which is said to be but three days.

My enquiries had not elicited any information to warrant the expectation of a successful result from this trip, as it appeared that the few articles of Thibetan manufacture, found amongst this people, were acquired by traffic with tribes more to the eastward: they would not acknowledge any acquaintance with the countries to the north, but described them as an uninhabited wild tract of hill and jungle. To their N. W., however, they place the Onka Míris, whose country, they say, is a level table land, and they are of opinion that these come in contact with the Bhotiyas—I thought that by gaining a footing in the first villages in the hills, I might either induce the people to throw off this reserve, if my suspicions of their concealing their knowledge were correct, or perhaps advance sufficiently far towards the north to make more effectual enquiries. I was disappointed through the interference of the Assamese

of the Sonari villages, who anticipated some unknown evil from our communication with their hill neighbours, and this friendly Chieftain positively refused to accompany me, or to let any of his people guide me till he should have returned and consulted his people.

Of the Súbanshiri, they could only tell me that it is divided above into three branches. It is called by them Kamla, and the principal branch rises in the N. or N. W. Snow, which I had seen lying on the mountain in a northerly direction, they told me was fifteen days' journey from their villages, and added that in the north-east, they could perceive it hanging on the mountains, in great quantity, throughout the year. The Míris bring down to exchange with the lowlanders, ginger, pepper, manjit, (madder) and wax. The Abors of Sueng Meng and Dohar Doowars, more eastward, have also copper vessels, straight swords and elephants' teeth.

The Súbanshiri River is scarcely inferior to the Ganges at Allahabad in December. I found the discharge at its mouth 16,000 cubic feet per second, and up to the hills its tributary streams are few and of little consequence. I think there is no doubt of its being the Omchu of Du Halde and Rennell. Its low banks are covered with tree jungle and are subject to inundation; there are very few villages visible from the river, but inland, on both sides, the country is better cultivated and more populous than other parts of upper Assam, with the exception of Jurháth and Chár Dwár.

It had been agreed with Mr. Scott, that in the event of my meeting with no success here, I should go on to the Dihong and Dibong, and if Captain Bedford had not already explored those rivers as far practicable, that I should make my attempt there.

My own belief, founded on the reports of the Míris, now on the Súbanshiri, who had emigrated from the banks of those rivers, was that neither would be found navigable, and I was prepared to move overland wherever I could find admittance. The Míris did not pretend to any certain knowledge of the origin of the Dihong, and they seemed to think that the notions current amongst their tribe and the Assamese, as little worthy my attention. They informed me that a tradition prevails with the Abors of the Súbanshiri, that their hunters once, travelling in quest of game, went much further towards the north than usual, and that they arrived at the banks of a noble and rapid river separating their wild hills from cultivated spreading plains, whence the lowing of oxen

was distinctly audible. Another singular account they mentioned of the Dihong Abors, that the Dihong is an anastomosing branch of a river of great magnitude, called Srí Lohít, which also throws off the Brahmaputra, and passes into unknown regions to the eastward. The Abors are supposed to see this Srí Lohít, and on the opposite bank numbers of people, of a strange tribe, are perceived coming down to the ghaut to bathe, but it is too rapid and too broad to be crossed. Another tale is, that the Sonáris not finding the sand equally productive as usual in their old washing haunts, continued their way in a small canoe up the river, renewing their search for gold continually, but in vain, but that they suddenly arrived in a populous country, the manners and appearance of the inhabitants of which were strange to them; that on mentioning what had brought them so far from their houses, they were instantly rewarded for their toil by a large gift of the precious ore, and sent back delighted.

The Assamese are of opinion that the families of a Bor Gohayn, who had been sent for under suspicious circumstances by the reigning Raja, took refuge in the Kalita country; but they seem to want authority for the opinion, and at all events it is extremely doubtful, whether any intercourse was kept up afterwards. I hesitate to express this opinion, because an opposite statement has been made. My grounds for it are that, when perusing the Assamese history, I did not meet with a satisfactory account of what became of them. My recollection is, that "the sons and family of the Gohayn fled up the Dihong," and the present very respectable Bor Gohayn of Assam could not give me better authority than mere tradition for the additional circumstances of their finding refuge in the Kalita country, and after intercourse with their friends in Assam.

On my arrival at Sadiya, I found that Captain Bedford had already proceeded up both the Dihong and Dibong, as far as he was permitted by the mountaineers, and I had great reason to fear that the same obstacles which he had experienced, would also interfere with my progress; but being provided with abundance of cloth, salt, and various articles in request amongst them, besides having the means of taking with me a sufficient guard to insure personal safety, an advantage which Captain Bedford wanted; moreover, having letters addressed in the Assamese language to the Abors, given me by the Junior Commissioner, and Mírí Interpreters who were accustomed to intercourse with them, I did not hesitate to make the trial.

As Captain Bedford's journey of this river was anterior to mine, so his account, extracts of which were published in the *Government Gazette* of 2nd February, deserves a preference, I shall therefore endeavour, from these extracts, to convey the best idea I can of this most interesting river.

18*th November.*—On the first day after leaving the Brahmaputra, Captain Bedford was struck with the placid and mild character of the river, expecting as he did, from all accounts of the utter impossibility of navigating it, to find it abounding in rocks and with a violent current. Sands were as frequent as in the Brahmaputra, and the jungle similar, that is, grass covers the islands and grounds formed by alluvial deposits, while the forests clothe the banks of older date: deer were numerous in the grass jungles.

19*th November.*—The second day no material obstacle was encountered, however stone beds were found to be taking place of sands, and several rapids were passed. The hills appeared near at hand, and in them a remarkable break, which was afterwards found to be, as conjectured, the channel of the river.

20*th November.*—The third day the rapids were more numerous, and more troublesome, but on the fourth, (21st of November,) they obstructed progress materially. Wherever encountered, the people were obliged to get out of the canoes, both to lighten them and to assist with their strength in pushing them against the currents. The direction of the river hitherto, nearly N. and S., is suddenly from the N. W. Deer and buffaloes were seen in numbers, as well as the large water fowl, called Keewaree. Musk beetles were very annoying from the intolerable odour communicated by contact with them; the hills were now so near, that trees and the colors of the foliage were plainly distinguishable on the nearer ranges, as well as the patches cleared for cultivation, but no habitation was yet seen.

22*nd November.*—After tolerable progress, Captain Bedford arrived in the evening near Pasiál, an Abor village, which is half a day's journey inland from the river, on the right bank. This was the limit of his excursion, as, on various pretences, the Abors of that place opposed his further progress. One plea urged was, that any one, having met them on friendly terms, would, no doubt, be very ill received by the Abors higher up, with whom they were at enmity. It was, therefore, necessary to return, after a stay of two days, and with such information as was to be

obtained from the Natives, who, though obstinate on the score of a further advance, and troublesome, from their rude habits and childish curiosity, were, on the whole, amicable and communicative.

The hills on the right bank belong to the Pasial and Mayong Abors, and those on the left to the Padoo, Siboo and Meeboo, and Goliwar Abors.

The Pasial Abors were armed respectably enough; every man had a bow and quiver of arrows, part of the latter of which were poisoned.* They also carry light spears, or the sharp heavy sword (Daô) of the Singfos. The Abors are not particular in their diet, and eat the flesh of the elephant, rhinoceros, hog, buffaloe, kid, and deer, as well as ducks and fowls, but they expressed an abhorrence of feeders on beef. They exhibited also a marked predilection for brandy, although some of them pretended to give a preference to a fermented liquor prepared by themselves. Salt, cloth, and tobacco were in great request amongst them.

The dress of the Abors consists principally of a choonga (Assamese name for dhoti) made of the bark of the Uddal tree. It answers the double purpose of a carpet to sit upon, and of a covering. It is tied round the loins, and hangs down behind in loose strips, about fifteen inches long, like a white bushy beard. It serves also as a pillow at night. The rest of their dress is, apparently, matter of individual taste; beads round the neck are not uncommon; some wore plain basket caps: some had the cane caps partly covered with skins, and others wore them ornamented with stained hair, like our helmets, and resembling the head dresses of the Sinh-phos.† Almost every man had some article of woollen dress, varying from a rudely made blanket waistcoat to a comfortably and tolerably well shaped cloak. One of these, of a figured pattern, was made with sleeves; it was said to come from the country of the Bor Abors; the texture was good, though coarse, as was that of a red cloak worn by the Chief of the village.

The Abors seem to have been in the habit of levying contributions on their low-land and less martial neighbours of Assam, and to have resented

* They kill buffaloes with poisoned arrows; they track the beast which they have successfully wounded, knowing that he will not move far before the fatal effects of their deadly poison will become sensible; within half an hour the noble beast staggers and falls

† The beak of the Buceros (Nepalensis) is a favorite and striking ornament of their caps; this, on the top in front, and the red chowry tail flowing down behind, gives very much the appearance of a helmet.

any irregularity in their payment, by predatory incursions, carrying off the people prisoners ; several Assamese captives were found amongst the Abors of Pasial ; some of whom had been so long amongst them, as to have become completely reconciled to their condition.

Captain Bedford's account of his voyage up the Dibong, which followed, is the only one we have of that river, and as it was also the next excursion, in order of time, I continue the extracts from it, as published in the Appendix to Wilson's History of the Burmese War.

" On the 4th of December, Captain Bedford entered the mouth of the Dibong ; the water was beautifully clear, running in a bottom of sand and stones. On the 5th, a shallow, or bar, was crossed, above which the stream was much obstructed by the trunks of trees brought down by the current. The river continued deep, and although several rapids were encountered, they were passed without much trouble ; numerous traces of buffaloes, deer, and leopards were observed, and also of elephants, which last had not been seen along the Dibong, nor on one of its feeders, the Lalee. Amongst the trees on the banks, were several, of which the wood is serviceable in the construction of houses and boats, as the Sáú and Soleana. The Demúrú yields a bark which is eaten by the Assamese with pawn.

On the 6th, at 11 A. M., the most formidable rapid that had been met with, was passed with much difficulty ; and on the following day a shallow, extending across the river, over which the boats were forced.

On the 8th, the part of the river reached was wide, and separated into many narrow and rapid streams; in the forenoon, the mouth of the Bhanga Nadi was passed, so named by the fishermen, from an idea that it is a branch of the Dibong, which forces its way through the forest ; but, according to other information, it is a distinct stream, flowing from the hills. It was not navigable even for canoes, but the mouth was one hundred and fifty yards broad, and, if it rises from a distinct source in the mountains, it must bring down a considerable body of water in the rainy season.

The progress of the Survey was suspended, for the greater part of the 9th, by an accident to one of the canoes, which was split from stem to stern. It was repaired, however, by the fishermen, in a singular manner. Having collected some of the fresh bark of the Simul tree, about half an inch thick, and tolerably strong, they fastened this to the bottom of the dingee with bamboo pins, about an inch and a quarter long, and filled

up the crevices with cloth, so as to keep out the water, and this slight apparatus succeeded in rendering the dingee almost as serviceable as before.

On the 10th, the river, although much intersected with forest, continued still to widen. It appears rather extraordinary, that a stream, the mouth of which is scarcely navigable, should have thus continued to improve in practicability, and that it should have presented more than one branch larger than the undivided river at its debouche. The difficulty is to conceive what becomes of the surplus water, unless it be absorbed partly in the sandy soil over which it flows, or stagnates in the hollows of the deepest portions of the bed. It seems not improbable, however, that in the rains, at least, it communicates, in the upper part of its course, with the Dihong, and that part of its water is carried off by that channel. On Captain Bedford's voyage up that river, he noticed, eight miles from its mouth, a wide opening in the forest on the left bank through which a stream, in the rainy season, probably comes either from the hills or from the Dibong. Along this day's route a number of otters were observed; buffaloes, and deer, and wild ducks, were numerous; the cry of the hoolloo, or small black long-armed ape, was constantly heard, and the print of a tiger's footsteps were noticed. Some of the people declared having seen the animal.

On the following days, the division of the river into numerous channels, and the occurrence of many shallows and rapids, rendered the advance very inconsiderable. On the afternoon of the 12th, the river presented three branches, two of which were found impracticable. In order to enter the third, which appeared to be the main stream, it was necessary to clear away a number of large blocks of stone, and employ all hands to force each boat singly over the rapids, by which means an advance of about half a mile was effected in about two hours. In the course of this day's navigation, the action of mountain torrents on the forests skirting the banks was strikingly illustrated. Besides the numerous water-courses tracked through the jungle, small clumps of trees were observable, growing upon isolated masses of rock, which had been detached by the passage of a torrent from the circumjacent surface. The sub-division of a river near the hills, and consequent destruction of the forest, seems the natural effect of the accumulation of the mountain debris, which, choaking the beds of the torrents, forces them to seek new channels, and spreads them annually in fresh directions through the woods.

The progress of the 13th was equally tedious and laborious, and two miles and a half only were made with the greatest exertions. About noon, direct advance was stopped by an impassable rapid, and the course diverged through a channel to the left, which led again to the stream above the fall, the banks of the river began here to contract, and the hills were no great distance. Foot tracks of men and animals were seen, and smoke observed amongst the forests, but hitherto no human dwelling had been seen, and none but a few stragglers occasionally encountered. On the 14th, the width of the river was reduced to between twenty and thirty yards, and as it was not above knee deep, it appeared not unlikely to be near the head of this branch, but an advance, for the purpose of ascertaining the fact, was disappointed by the appearance of the Meeshmees, who showing themselves unfriendly to the further prosecution of the Survey, Captain Bedford thought it expedient to return. There are five villages of these people under the first range of hills, extending nearly South-west towards Pasial on the Dihong. Zillee and Anundeea containing from thirty to forty families, Maboom containing ten, Alonga twenty, and Chunda twelve, making a total of eighty families, or about five hundred persons of all ages. They are at variance with the Abors on the Dihong, and also with the Meeshmees on the left bank of the Dibong. A party of these people made their appearance on the evening of the 14th, occupying the high bank which commanded the passage of the river, and upon opening a communication with them, it appeared that they were the precursors of the Gaum, or head man of Zillee, for whose arrival, as well as that of other Chiefs, it was found necessary to halt. The people evinced more apprehension than hostility, and suffered the land operations of the Survey to proceed without interruption.

The people collected on this occasion were variously attired; some of them, like the Abors, were dressed in skins, but the most common dress was a coarse cotton cloth; no woollen garments were seen; many wore rings below the knee. Their ears were pierced with pieces of metal or wood, and some of them wore semi-circular caps, ribbed with cane. They were armed with dhaos, and bows and arrows, the latter are poisoned with the extract of some root. The Meeshmees and Abors eat together and acknowledge a common origin. They profess to worship at a different shrine, which, the former assert, is at a considerable distance. The Dibong is said to be divided, on its issue from the hills, into four branches, but above them is a deep and even stream, occasionally intersected by

rocks. The source is described to be remote, but none of the villagers could give any account of it, nor of the general course of the stream, from personal observation, as they seldom leave the immediate vicinage of their native villages. The nearest village to the river was Zillee, about nine hours' march, from which Maboom was half a day's journey distance. The undivided course of the stream, above a small hill, a short way above the spot where Captain Bedford had moored, and round which the Dibong winds into the low country, was ascertained by actual observation.

In reply to Captain Bedford's expressed wish to proceed, the Meeshmees, who gradually increased in numbers, coming in from the different villages, insisted on his waiting the arrival of the Gaum, or Chief of Alonga, to whom, the interpreter pretended, the others looked as their head ; while thus delayed, bees' wax, honey, rice and ginger were brought for barter ; but it did not appear that the Meeshmees were sportsmen, like the Abors, and no game was procurable : according to their own assertions, the Meeshmees of the left bank are much addicted to the chase, especially those of Buhbajeea, whom they describe also as a fierce race of cannibals. The Zillee Meeshmees sometimes kill elephants with poisoned arrows, and after cutting out the wounded part, eat the flesh of the animal.

On the afternoon of the 17th, the Gaum of Anundeea made his appearance, by far the most respectable looking of his tribe ; those of Zillee and a village called Atooma had previously arrived. In the conference that ensued, the Chiefs endeavoured to dissuade a further advance, chiefly on the plea of danger from the rapids and the unfriendly disposition of other tribes ; but they promised to offer no obstruction. On the following day, accordingly, the route was resumed, when a messenger announced the arrival of the Gaums of Maboom and Alonga, for whom it was necessary to halt. In the interview with them, fresh difficulties were started, and as there appeared to be some serious intention of detaining Captain Bedford where he was, as a hostage for some of the people carried off prisoners by the Suddeya Gohayn, he thought it expedient to retrace his steps, and accordingly set out on his return on the evening of the 18th. The course down the stream was rapid and disastrous—some of the boats being wrecked in the falls. On the morning of the 19th, a small stream was passed, called the Sitang Nadi, which appears to be a divering branch of the Bhanga Nadi, and the last point where that joins

the Dibong. On the afternoon, the mouth of the Dikrong was reached, and a Survey of the lower part of its course commenced. It is a very winding stream, about fifty yards wide near its junction with the Dibong, which is about eight miles above the mouth of the latter. It flows through a dense forest, and its water is thick and muddy.

On the 20th, the voyage was prosecuted up the Dikrong, or Garmúra, as it is termed by the Khamtis, above Kamjan, on the left bank, half a day's journey overland to Suddeya. The water was much more clear, and ran in a sandy bottom. The current and depth of water in these tributary streams are much affected by the contents of the main stream, the Burrampooter, and when that has received any considerable accession to its level, the banks of the smaller feeders are overflowed. The name Garmúra is more properly applied to a small stream that falls into the Dikrong from a jheel near Suddeya; above this, the river is divided into two small branches by an island, near which are the remains of a village and bridge, and a pathway, opposite to the latter, leads to Bulibajeea.

After passing the island on the 21st, the Dikrong became too shallow for boats of any burthen, and much obstructed with dead trees; the direction was northerly, and glimpses of the hills were occasionally gained. A few inconsiderable falls occurred, and the current of the river was rather stronger than it had previously been found. The voyage was continued up the river till the afternoon of the 22nd, when it became too shallow for the canoes to proceed. Some further distance was explored in a slight fisherman's boat, but the progress was inconsiderable, the water not being ankle deep, Captain Bedford therefore returned to the Dibong. The Dikrong contains several kind of fish of good quality, and in the forests, along its borders, are found yams, superior to most of those cultivated, and several other esculent roots. The orange also grows wild, the fruit is acid, but not disagreeable, and the pulp is of a pale yellow, like that of the lime. Amongst the trees of the forest is one called Laroobunda, of which the bark is used to dye cloth and nets of a brownish red tinge, the wood is also used for making canoes. The Dikrong was supposed to be connected with the Koondil which is not the case: gold dust has been also, it is said, found in the sand, which does not seem to have been the case in this voyage.

The 24th and 25th of December were spent in examining the Eastern branches of the Dibong, as far as practicable, and early on the morning of the 26th the Survey was terminated at the mouth of that river."

To Captain Bedford's account of the Dihong I can add little, but as the mode of travelling has not been clearly explained I should endeavour to describe it. I took with me ten Gorkhas of the Champaran Light Infantry Corps, and embarked with fifteen days' provisions, and my stock of presents in several canoes, each made of a single tree, and the largest capable of carrying ten men in smooth water. The more convenient size for easy management in the rapids is a canoe fit to carry six, which is perhaps a safer boat also than a larger. I did not adopt Captain Bedford's plan of making two fast together as a raft, and consequently, though through the awkwardness of the Sipahis, a boat was occasionally overturned, I did not experience any very inconvenient losses. All those who could not aid effectually in managing the boats were made to keep the shore, but even then their help was called for when engaged in a rapid, as the exertions of the boatmen were hardly sufficient to overcome the resistance of the stream. On these occasions, the smallest canoes, manned by two expert fishermen, are pushed through with very little delay, the larger boats drawn up into still water, and forces are joined for extricating one at a time. At a rapid, the form of the bottom is always a very gentle slope on one side, deepening gradually towards the other, where it would be impossible to stop the force of the current. The canoe is run aground on the shallow side, and is dragged up sometimes supported by the water, and sometimes its weight wholly resting on the boulders or rounded stones.

I recollect but one exception where, for the space of four hundred or five hundred yards, the depth appears equal in the whole width, and here the major part of the river, collected in one stream, descends the declivity at the rate of at least ten miles an hour.

It is in coming down the rapids that skill, on the part of the conductor, is requisite: his object is generally to bring his boat to that point sufficiently remote from the shallower side, to secure a sufficient depth of water to avoid touching; but he is almost equally afraid of the violence of the current and of its agitated state on the other.

It is a moment of intense interest, when silence prevailing in the boat, no exertion is made, but by the steersman and his principal coadjutor at the head. They too sit almost motionless, yet forming their judgment, while they have a perfect command over her, in the calm smooth stream above, they carefully guide her to the shooting place. The water is clear as crystal, and the large round blocks at the bottom, above which she

glides with the velocity of lightning, seemed removed but an inch or two from the surface, threatening our frail bark with instant destruction. In the case of any accident happening, good swimming would avail but little.

My shelter at night was such a small paul tent as could be stowed in the canoe, and the men either slept without or collected sufficient grass and reeds to build themselves a slight protection from the dew or rain.

I did not note anything very remarkable in my passage up, unless it be the state of the left bank. About six miles below, where the river emerges from the hills, its direction is suddenly changed from E. to S. S. W., and from that corner the forest marking the ancient bank recedes from the edge; whence, lower down, it is seen at a considerable distance. It returns again to the bank of the river, ten miles below the bend. Within the extent thus marked by a semi-circle of trees, the ground is high—higher by several feet than the river now rises in the highest floods, but it is evidently an alluvial deposit, being almost entirely sand. Within it there is one insulated patch of tree forest. The Míris declare that the great flood left it in this state; their villages, which were utterly destroyed, were situated within this same space, and certainly the appearance I have described is highly corroborative of their assertion. I halted at Shigaru Ghat, opposite to Captain Bedford's old mooring place.

The Menbú people had notice of my arrival, and I soon saw two or three of their Chiefs, accompanied by another, who was said to have rank among the Bor Abors.* They seemed to be averse to it, yet gave their consent to guide me to their villages, and I felt confident of being able to start with them, when the Pasu Abors made their appearance from the opposite bank, renewed the business of harangning, and, after a long debate, turned the tables against me. My Menbú and Bor Abor friends now insisted that till we restored the Míris to their former places, at the mouth of the Dibong, they could not, and would not, venture to introduce us among their tribes. I was thoroughly convinced of the truth of my accounts of the impossibility of navigating the river more than one or two days' journey within the hills, and thought it would be folly even

* Abor is an Assamese word; they call themselves Padam. A signifies privation, and bor the contraction for a verb, signifying to submit to, or become tributary. Thus there are Nagas and Abor Nagas—*i. e.*, independent Nagas. Bor is bara, great.

to attempt this, with the small guard I had, against the wishes of the Abors : it might be the means of defeating all future attempts.

I was now some time inactive at Sadiya, doubtful whether it were not better to return to Súbanshiri, even with the poor prospect I had of success there.

In the S. E. quarter, Captain Bedford was present, with the Rungpur Light Infantry, to pursue his researches wherever practicable. I had communicated with him, and found that he considered me as interfering in some degree with his researches, and as he expected to return immediately, I thought I was obliged to accede to his request that I would leave the Eastern branch of the Lohit, the Brahmaputra, and the far-famed Kund for his investigation.

Amongst other visitors who were attracted to Sadiya by the good reports which began to be spread of the English character, was the Lúri Gohayn, brother of the Sadiya Chief. He had taken alarm on Lieutenant Burlton's first visit, and fled from his flourishing villages, in the neighbourhood of Sadiya, to take refuge in the wild jungles below the Eastern hills, from the anticipated ill treatment of the Europeans. I found this man more communicative and better informed than the natives with whom I had had intercourse, and I soon arranged a plan with him for visiting his village, with a view of learning from the neighbouring Míshmís something more definitive about the Lama country, or, in short, to extend the field of our knowledge, and turn to account any new opportunity that might offer.

In this excursion I was accompanied by Lieutenant Burlton. He had, on a former trip, reached Sonpura, about twelve miles East of Sadiya, where he had found an effectual bar to his further progress in large boats in the shallows and rapids.

In the following passage, which appeared in an extract published in the *Government Gazette* of 21st September 1826, from Captain Bedford's *Journal of a Voyage up the Brahmaputra*, the Editor, and perhaps the public, seem to have formed notions of this river not altogether correct.

" The Brahmaputra, although of considerable breadth and depth in some places, is hence constantly broken by rocks, separated into different small branches by islands of various extent, and traversed by abrupt and numerous falls." The nearest hills to Sadiya, by the course of the river, are upwards of forty miles distant, whether those near the Kund or those on the Digaru, a principal tributary on the North bank, and in this

extent the river does not intersect any rocky strata, but to the distance of thirty to thirty-five miles from the first ranges, the torrents of the rainy season bring down an immense and yearly accumulating collection of boulders and round pebbles of every size, which, blocking up the river, are the causes of its remarkable feature of separation into numerous and diverging channels, and of the difficulties of navigating it. Many of the stone beds have been so long permanent, that they are not only covered with grass jungle, but have a few trees growing on them. The extreme banks, both of the North and South, are clothed with a dense tree jungle, which is rendered almost impervious by rank underwood. The general direction of the stream is from E. N. E. to W. S. W.

The rapids are very numerous; they are invariably situated where a large deposit of stones encroaches on the river. The most formidable one encountered by us was that at the mouth of the Súhatú, a branch which separates from the main river eight miles below the Kund, forming an island of about fourteen miles in length. The fall at any single rapid seldom equals five feet, which is carried off in a distance of from fifty to two hundred yards; the violence of the current at the principal channel of the Súhatú Mukh was such that we could not attempt the direct passage, but passed by a circuitous route across the main river, with the sacrifice of much time, to a small channel on the Eastern side.

The Karam, up which our course lay, falls into the Súhatú nearly four miles above its mouth. Here though very much disinclined to part with our boats, we were convinced of the necessity of leaving some of them, and even with such of the smaller as we retained it proved difficult to advance up the minor stream. It was often found necessary to open a passage up a shallow by removing stones from the bottom. Our route, while the boats remained with us, was generally through the jungles on the bank; but such a survey as, under these circumstances, I could make, I did; estimating the distance according to time, and taking what bearings the closeness of the jungles permitted. A perambulator would be battered to pieces, and the objection to a chain would be the necessity of wading across every two or three hundred yards, and the want of open ground which frequently occurs. The only sign of population that we saw on our journey were parties of priests (Khamti) moving from one village in the jungles to another. We were obliged to relinquish our boats entirely where the Karam, being formed of two branches, has scarce any water in the dry season at places where it is choked by a col-

lection of stones. We found the Lúrí Gohain's village, of ten or twelve houses only, and their cultivation scarcely equalling their need; it was at the base of a low hill, which is attached to others rising in height. Those on the opposite bank of the river appeared not more than ten miles distant, and on the angle a little E. of N. we were assured that the Kund was situated. All that we had added to our stock of knowledge was the certainty of the Brahmaputra leaving the hills, where its exit had been pointed out from a distance, and by passing in an Easterly direction, South of the great line of snowy peaks, we had ascertained that there is no material break in them; but the weather would not permit the contemplation of the splendid scene which is opened in the cloudless skies of the winter months.

We learned that the Lama country, on the banks of the Brahmaputra, was but fifteen days distant, and the upper part of the Irrawaddy (whence the Khamtis emigrated to this side) about the same, but our provisions were nearly exhausted, and we saw that we were not likely to procure any supply here.

We saw several Míshmís, wild-looking but inoffensive (rather dirty) people. The dress of the labouring men being as scanty as that occasionally used by Bengalee boat-men, and perhaps not quite so decent, scarcely deserves that name. The richer have coats of Thibetan coarse woollens, generally stained of a deep red, and sometimes ornamented with white spots, which are preserved from the action of the dye by tying. The most remarkable article of their equipment is the earring, which is nearly an inch in diameter, made of thin silver plate, the lobes of the ears having been gradually stretched and enlarged from the age of childhood to receive this singular ornament. A pipe, either rudely made of bamboo or furnished with a brass bowl, imported from China, through the intervention of the Lamas, is never out of their mouths, and women, and children of four or five years of age, are equal partakers of this luxury. The men are generally armed with a spear or straight sword.

On our return to Sadiya, I found Captain Bedford ready to depart on his visit to the Kund. Affairs with the Abors were precisely *in statu quo*, and the enmity between the Khamtis and Northern Míshmís rendered the Dibong unsafe. I resolved therefore to return to the Lúri Gohain's village, and thence endeavour to push on towards the E. and S. and visit the Irrawaddy.

On my second visit, and proposition, actually to set out in an adventure to the Bor Khamti country, which had been talked of before, when

we were at a loss for provisions, as perfectly feasible, the Lúri Gohain and his people informed me of various obstacles which had not yet been alluded to. The snow on the high range of mountains to be surmounted in the route could not be passed before the month of April or May, (and there was truth in this objection,) the country was not prepared for such a trip—very great risk would be run by venturing amongst the Singfos, who were removed from the sphere of our influence, or rather from that proximity to our force which should incline them to dread us.

Taín Míshmís, from two days journey beyond the Kund, had arrived, and I considered my trouble as partly rewarded by the information derived from them. Primson and Ghalum, the two Chiefs, who afterwards accompanied me in my excursion up the river, communicated freely what they knew, and the former enabled me to lay down the course of the river as far as the Lama country. I also undertook an excursion to the village of the latter.

On setting out, we continued through the same heavy tree jungle as we had passed through from the Karam, and skirting the base of the low hill in a N. E. direction, we crossed the Laih under the foot of a higher range. A path can be traced, but is evidently little frequented. Turning more East, we ascended a considerable height up a very steep and rugged path, and arriving at a small patch of cleared ground, where the trees had been felled, and the underwood burnt preparatory to cultivation, we turned round on the most splendid view I had ever beheld. The Brahmaputra was visible at no great distance on the right, emerging from a long narrow chasm in the hills. On its Northern banks, the low hills, the tops of which had been visible from Chala, were seen running along its edge, thence stretching away to the right, and varying in size and character from the mere wooded ridge to the towering naked peak, resplendent in its clothing of snow, and glittering in the sun-beams, until they gave place to spreading plains.

Our host for the night was the Chief of Thethong, of which village we saw but two huts, and imagination can scarce picture a situation more wild than they were placed in. The slope of the hill where they were built was full thirty degrees; the huts were of great length, and about twelve feet broad—the beams of the floor resting on one side on the hill's face, and on the other upon stakes driven into the ground below. The roof is of the lightest materials, in order that the smoke may have free egress, and it hangs down, projecting on each side to near the floor, to give protection

against the wind. Within, on one side, rows of bamboos extend horizontally, the entire length laden with the blackened skulls of all the animals on which the owner had, in the course of his life, feasted his frends; cross fences of bamboo mat divide it into small apartments, in each of which are one or more hearths glowing with burning faggots. Both house and inmates were black with dirt and smoke. Outside the door, it is but necessary to turn the back on the hut to suppose that we are far removed from the habitation of men, in the depths of some wild forest—so little does the immediate vicinity of the dwelling display any sort of care.

In the evening a storm of wind and rain came on, and the thunder rolled in awful peals, echoed by the surrounding walls of mountain. On the morrow heavy and continued showers forbad exit from the house, and on the third day we were, in the same way, involuntary prisoners. I was assured that it would be necessary to wait some time after the cessation of these heavy rains before the rivulets between us and the Taïn hills could possibly be crossed, and I was also reminded that if they should continue, we should very soon find the Laih so swollen as not to admit of our fording it on our return, and as to procuring provisions, however hospitable our host seemed, I found that he watched his very slender store with great and jealous vigilance. The poor fellow, indeed, could have ill afforded to feed my people for one day. Under these circumstances, I felt well pleased that some intermission of the weather permitted me to regain my more comfortable habitation at Chalí on the fourth day. Here again I was detained by the state of the Karam, which could not be forded.

I shall hereafter have occasion to allude to the opportunities I have had of acquiring a knowledge of the rivers between Assam and China. I will therefore, in this place, merely mention that one of the higher class of Khamtis present had been a resident at Yunan for a period of eight or nine years. He gave me an account of the stages, rivers, and cities, agreeing closely with the account given to Dr. Buchanan by the Bhammo Governor. He did not go to Santafou—but leaving Bhammo he went in three days to Múngwan on the East bank of the Namiun; thence in five days he reached a larger town called Mungti, and thence, between that place and Mangmen,* he crossed the Namkho, which he describes

* Mang, in the Shan, or Khamti, means country or town.

as equal in size to the Irrawaddy River. The Namkho, he says, divides a Sham province from China proper.

These are most probably the same places with Buchanan's Mowun, Maintu, and Momieen; however, either the Doctor's informant was mistaken in the Chinese names, or my friend had forgotten the positions of the towns relatively to the river (Namkho.) I would not venture to hint the possibility of the former (which, by the bye, may have occurred in copying), had not a Chinese from Yunan, who was some time with me, called Mungtí, Feng ye chou, which would make my friend the Sham perfectly correct. I must add, that till I came down to Calcutta I never had any opportunity of seeing anything of Dr. Buchanan's information. The Namkho, it is scarcely necessary to add, is evidently the Nou Kyang. I cannot quit the subject without expressing my admiration of Mr. Klaproth's boldness in turning all the water of the Sampo into the Bhammo River, concerning which we can so easily here consult sufficient authority. Mungyah, my Burman attendant, instantly answered to my question about its size, that it is equal to the Dikho, one of the rivulets of Assam.

My return by water was very rapid; the first day I reached the Suhatu; the second, starting after breakfast, and halting some time to take bearings at three places on the way, I reached Sadiya in the afternoon, having performed upwards of thirty miles that day. The only incident I have to mention, and that only interesting as conveying a further idea of the nature of the rapid, is my descent of that at Suhatu Mukh, where there are three separate channels. As the river had risen considerably, I expected to find the declivity in the principal channel, which is not interrupted by any shallow, less than when I passed up, and my boatmen readily consented to shoot it. Its agitated appearance, however, when we arrived near the brink, induced them to change their course for the middle channel, which is interrupted and crooked. The first time we struck, I perceived a crack in the bottom, under my feet, at least a cubit long, and this visibly opened every shock we received, and indeed the whole descent was a succession of such shocks, so that with the water received by the leak, and that by the waves washing over, we were obliged to stop some time to bail out and lighten our canoe.

Captain Bedford's account of his voyage was noticed in the *Government Gazette* of September 21, 1826, and the extract then given has been reprinted in Wilson's *Documents illustrative of the Burmese*

War, to which I refer for a very interesting narrative. I propose to give here an abstract of the Geographical results :—

" On the 10th March, the course pursued left the main stream, and proceeded up the Suhatu, a detached branch on the " left" bank of the Brahmaputra, and, like that, intersected by rapids, and endlessly sub-divided by islets 'formed of accumulations of boulders.' No signs of life were observable in this part of the journey, and although the banks were covered with thick forests, few birds or beasts disturbed their solitude. The Suhatu forms, with the Brahmaputra or Bor Lohit, an extensive island, the greater part of which is impenetrable forest ; but there is one village in it of some extent, named Chata, inhabited by Mishmís, who are of more peaceable habits than the mountain tribe (on the Dibong) of the same appellation. After a tedious voyage of eighteen days, during which nearly forty rapids were passed, the course returned, on the 28th of March, to the Bor Lohit or Brahmaputra. The Suhatu opens above a rapid in the main stream, which is pronounced by the Natives impracticable, and it has every appearance of being so. And at this point, the river, now confined to a single branch, takes a Northerly direction and passes under the first range of hills. It runs in one part close below a perpendicular cliff of this range from sixty to eighty yards high, and covered from base to summit with soil and forest. The current at this point is strong, and its volume considerable ; large rocks (stones) project, from four to six feet above the current, which have evidently been rolled down from a distance, as the hills near at hand, from two hundred and fifty to four hundred feet high, are composed of earth and small stones. The banks are every where clothed with forest, in which the Dhak or Kinsuka *(Butea Frondosa)* is conspicuous. The left bank of the river, below where it issues from the hills, is composed of loose granite blocks, occasionally resting on a partially decomposed rock ; the strata are in some places horizontal, but in others they are much broken, as if undermined and fallen into the stream. In a dry stone bed was observed a large detached block, twenty-five feet long, eighteen high, and nearly the same breadth. It is difficult to conceive by what means so ponderous a body could have been precipitated into its present position. There are several other large rocks immediately below where the Lohit issues from the hills, by which it is separated into several small channels ; but at (above) the point where these unite, its general breadth is two hundred feet, and it flows with great force and volume: the course of the river

behind the first range is concealed from view by a projecting rock jutting into the river, beneath which it rushes, as from a fall, with much foam and noise. Behind this, the river is said to be free from rapids, and to flow more quietly : the river is also said to change its course behind the first range, and to flow from the South-east under some small hills, behind which a higher range appears with the snowy mountains in the distance.

" After some ineffectual attempts to open a passage to the supposed head of the river, the Deo Páni, or Brahma Kund, the divine water, or well of Brahma, which it was known was not remote, and after some unsuccessful efforts to reach the villages, the smoke of which was perceptible on the neighbouring hills, a communication was at last effected with the Míshmís of Dilli,* a village of about a day's journey from the left bank, as well as with the Gaum, or chief of the village near the Brahma Kund, in whose company a visit was paid to the reservoir on the 4th of April. This celebrated reservoir is on the left bank of the river ; it is formed by a projecting rock, which runs up the river nearly parallel to the bank, and forms a good-sized pool, that receives two or three small rills from the hills immediately above it. When seen from the land side, by which it is approached, the rock has much the appearance of an old gothic ruin, and a chasm about half way up, which resembles a carved window, assists the similitude. At the foot of the rock is a rude stone seat: the ascent is narrrow, and choked with jungle ; half way up is another kind of seat, in a niche or fissure, where offerings are made ; still higher up, from a tabular ledge of the rock, a fine view is obtained of the Kund, the river, and the neighbouring hills ; access to the summit,† which resembles gothic pinnacles and spires, is utterly impracticable ; the summit is called the Deo Bárí, or dwelling of the Deity. From the rock the descent leads across a kind of glen, in the bottom of which is the large reservoir, to the opposite main land, in the ascent of which is a small reservoir, about three feet in diameter, which is fed by a rill of beautifully clear water, and then pours its surplus into its more extensive neighbour

* Dilling, or Dilong, is the only name resembling Dilli among the neighbouring villages, but it is a hard day's journey from the Kund, and when I enquired there they did not know of the visit of Captain B.'s people. They thought it might be Thethong. Captain Bedford places Dilli, however, near my Dilling.

† Though inaccessible from below, a path above crosses the Deo Páni which I have twice passed ; it might be very difficult to clamber down ; but upwards from where I crossed it, it appeared easy to get up the mountain, even to the head of the rill.

below. The large Kund is about seventy feet long by thirty wide. Besides Brahma Kund and Deo Páni, the place is also termed Prabhu Kuthár, in allusion to the legend of Parasuráma having opened a passage for the Brahmaputra through the hills, with a blow of his kuthár or axe.

"Want of supplies prevented a stay at this point, and rendered a prompt return to Sadiya indispensable, which was effected by the 11th of April."

The Assamese distinguish the Prabhu Kuthár (the Kund now visited) from the holy Kund, in which the river has its origin ; but they have no clear idea of the situation of the latter, and they universally declare it to be utterly inaccessible to man.

It is much to be wished that some one adequate to the task would follow up Colonel Wilford's enquiry, now that we are possessed of much more accurate information. At present there appear so many discrepancies between the Hindu legends and facts, that we are quite at a loss : however, Colonel Wilford also recognises the famous chasm or pass of Prabhu Kuthár as totally different from the Kunda. The pass, he informs us, is, according to the Kshetra Samása, sixteen yojans or sixty-four kos to the Eastward of Godagram, or Gorganh, (it is, in fact, about one hundred and fifty miles distant,) and from the pass to the Kunda is a journey of eight days. The continuation of Colonel W.'s discussion contains a singular mixture of what closely resembles the truth, with other matter which we cannot reconcile with what we know to be fact.

*The Assamese have no notion that a pilgrimage was ever made beyond the Prabhu Kuthár ; but if it ever were, I know, from the difficulties of the way, that it would be absolutely impossible to march nine or ten kos a day, or indeed more than one-fourth of that distance, through those rugged hills. The account of the entire distance to the river's fountain head, however, may not differ materially from the truth, and the Míshmís are not ill described. Tigers, however, are not to be found in their hills, and it is highly improbable that troops were ever sent into so difficult a country to chastise people who, in their own haunts, have so great an advantage.

* Asiatic Researches, vol. xiv. p. 424. "From the pass to the Kunda, the journey is always performed in eight days, because travellers must keep together, on account of the inhabitants, who are savages, great thieves, and very cruel. There are fixed and regular stages, with several huts of the natives. The Kings of Assam are sometimes obliged to chastise them, but in general they contrive to secure the friendship and protection of their chiefs, by trifling presents. The country is covered with extensive forests, with a few spots cleared up, with very little industry and skill. Tigers are very numerous, and very bold."

Correct as his information proves of the situations of the Prabhu Kuthára and Kunda, Colonel Wilford quite surprises us further on by telling us that (p. 455) the Kunda of Brahma is acknowledged to be the lake Mansarovara. Again, considering the state of our geographical knowledge when he wrote, the description of the lesser and greater Lohita, the former being known as the Bonash or Manasa, and the latter also called Sama, evidently to be recognised in the Dihong, inclines us to believe that reliance may be placed on the authorities quoted by him, although we cannot overcome the difficulty of making the Prabhu Kuthár pass subservient to the passage of the Brahmaputra into Assam from the Mansarovara lake.

On my return to Sadiya I found, amongst the numerous visitors there, all the Singfo Gaums, acknowledging our sovereignty, and likewise Ambassadors from the tract beyond the Irrawaddy, in latitude twenty-five to twenty-six; Burmans and Shams were present—the latter from Mungkhang, West of the Irrawaddy, in latitude twenty-five—the former from various parts of their own empire, and from the source of the Irrawaddy we had many Khamtis among the population of the place. From Yunan we had two Chinese, who were taken prisoners with the Burmans at Rungpur, but they were not present with the Ambassadors, having been detained by some accident on the river.*

It may be supposed that I did not neglect to take advantage of these opportunities to investigate as fully as I was able the probability of any connexion of the Irrawaddy with the Sanpo, but though the existence of a large Eastern branch of the former river, hitherto unknown, was proved, there appeared every reason to conclude, both from the information of these various tribes, and from the want of magnitude of any of the branches of the Irrawaddy, that the Sanpo could not possibly have its exit to the ocean by this channel.

The Bisa Gam, with the Singfos from Húkúng, constructed several maps for me of that valley, and the route to it from Sadiya; and some of them who had travelled to the sources of the Dihing, confirmed the accounts previously received from the Lúri Gohain, of the route to the Khamti settlement on the Irrawaddy.

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* Amongst the Ambassadors were Shams, wearing the Chinese dress, who were in the habit of passing the frontier, were acquainted with the language, and dwelt within the boundaries of Yunan, as they are exhibited in our maps.

The season was too far advanced now for an expedition to the Míshmí hills to the Eastward, as the frequent rains made the state of the rivulets so uncertain. My scheme of crossing to the Irrawaddy was considered two hazardous in the present state of our relations with the Singfos. It remained then only to wait patiently at Sadiya for the return of the cold season, and in the mean time to undertake what little was practicable in the way of survey in the neighbourhood. But the rivers could afford the only means of seeing the interior of the country, the dense jungles being impassable, and of the rivers, the Tenga alone claimed interest; a survey of the Dibúrú, sufficient for practical purposes, having been recently made by a native surveyor of Mr. Scott's, from whose field books I protracted a map.

The Tenga Pání, like all the rivers in this quarter, winds through a dense tree jungle: its breadth at the entrance is one hundred yards, diminishing soon after to eighty, the first three and a half miles the water is perfectly smooth and the current moderate: beyond this the rapids are numerous, and it is no longer possible to proceed in any other boats but canoes.

Latao, a Singfo village, of six or eight houses, is the only inhabited spot we saw: it stands at the angle of a deep bend, and may be seen from the distance of half a mile: it was surprised by Captain Neufville's party in 1825, and now, deprived of his slaves, I found the Chief, (a fine old man, of a very communicative disposition,) reduced to the necessity of guiding the plough with his own hands. Many of the Singfo villages had suffered equally with this, and but for the trifling supplies which we were able to afford from our stores at Sadiya, a great number of the scanty population would probably have been compelled to emigrate to Húkúng.

Fish abound in the rapids of the Tenga; and river turtle, of a very large size, are occasionally found and eaten by the Singfos, with great relish. I witnessed the capture of one of these creatures of the largest size—it was seen entering a little creek formed by a fallen tree, and a canoe manned by three Singfos, was instantly planted across the opening. One of them watching his opportunity, suddenly leaped on the back of the animal which had descended to the bottom of the pool, and a knife being handed to him, he dipped his head and arms under water and cut two large notches in its hinder part and made fast to it a green pliant cane, with which it was easily pulled on shore; but cased in a coat of

mail and armed with sharp teeth, at least half an inch long, the turtle was not yet mastered, and advantage was taken of its attempts at self-defence to secure its mouth by presenting a large bamboo, which it constantly snapped at. A man sitting on it, next bored the paws, which being bound on the back with cane, reduced the poor turtle to a helpless condition, and he was put on board the boat.

The early settlements of the Khamtis, when fifty or sixty years ago they first crossed the mountainous barrier at the head of the Dihing, and procured the permission of the Assamese Raja to reside within his territories, were here upon the Tenga Páni; but there now remains no vestage of the former populous state of its banks: an uninterrupted tree jungle continued as far as I could explore it. We passed the Bereng, which is a narrow rivulet, branching off from the Karam: the Marber we also passed, on which are one or two small villages of the Khamti Chiefs, who, having been concerned with the Singfos in a plundering incursion, fled from Sadiya on the approach of our force, and latterly, we found the river so much reduced in breadth, and so choaked with fallen trees, that further progress, even in the smallest canoe, was impracticable.

Bearings on the survey peaks to the North afforded means, together with latitudes, for correcting this survey, in which, from the nature of the banks, no measurement could possibly be attempted.

I have omitted in the proper order of time to notice Lieutenant Jones's survey from Rungpur to Bisa, where the troops received orders to advance towards the frontier. Lieutenant Jones was placed in charge of the cattle, with directions to march to Borhath, and thence either through the Bengmora district to Sadiya, or along the Bori Dihing to Bisa, whichever should be found practicable, and, though harassed by the nature of his charge, he surveyed the route very successfully.

I have now come to the close of the proceedings of this season. In the rains, preparation was made for what appeared to be the most feasible proposition for the next, which was to penetrate to the Lama country on the heads of the Brahmaputra, where, from the Lamas, we might at least learn something definite respecting the course of the Sanpo, whether Eastward of Lhassa it bends to the South, or whether it continues Eastward, and passes round the sources of the Brahmaputra and Irrawaddy.

Maps were prepared from the information received from various sources. One of the route to the Lama country and to the sources of the

Irrawaddy; and the other, of the Húkúng valley and route of the Burmans from Múngkhúng to Assam; the former has been found as correct as a document compiled from similar data could be expected; and since I had greater facilities in preparing the other, in being able to compare the accounts of so many people, I feel confidence in its general accuracy also. I shall now pause awhile before proceeding with an account of my adventures of this season, and endeavour to give such a description of the tract about Sadiya, as will enable those who have not the opportunity of referring to my large map, to form some idea of the peculiar features of the country and its scenery.

The termination of the valley of Assam is a spacious level plain, of a quadrangular form, in the midst of which is the town or village of Sadiya situated on the Kundil nullah, two miles inland from the Brahmaputra, and thirteen miles East from the point of confluence of this stream with the great Dihong.

The plain is intersected by many rivers, the principal of which are the Brahmaputra, issuing from the pass of the Prabhu Kuthúr, which is about forty-two miles distant in a direction a little North of East: the Noa Dihing, which emerges from the hills at Kasan, about forty miles distant in a South-Easterly direction, and joins the Brahmaputra about seven miles beyond Sadiya: the Dibong intersecting the higher angle of the quadrangle, which immediately North of Sadiya reaches the latitude of 28° 15′ and the Dihong pouring its copious supplies from a conspicuous break in the range which skirts the plain running from the same angle to the South-west. The Karam and Tenga Páni, with numerous other petty rivulets, have their rise in the mountains South of the Prabhu Kuthár and they run nearly parallel with and near the Brahmaputra, the former falling into the Suhatu, nearly opposite to where the Digaru, from the Northern mountains, descends in a torrent to the Northern branch, and the latter having its mouth near that of the Noa Dihing, South of the plain, the Bori Dihing separates it from the Naga hills, running nearly Westward. The quantity of cultivation within this space is very small. The villages of Sadiya do not extend more than six miles between the post and the Dikrang River. Beyond Sadiya, on the North side of the river, the tract is an uninterrupted jungle to the foot of the hills, and on its South side the little village of Latao, that on the Suhatu island, of the Tao Gohain, and a Khaku village near the Dihing, form mere specks in the widely spread wilderness.

The mountain scenery of Sadiya would form a noble subject for a panorama, though the distance of the hills is rather too great for the larger features required in a detached picture. To the South the high Naga hills bordering Assam, beyond the Bori Dihing, lift their heads above the tree jungle of the opposite bank of the Brahmaputra; to the W. and S. W. the ranges are too distant to be visible; but in the N. W. they rise to a considerable height where the mountain Reging of the Abors towers above the Pasí village; thence there is a sudden fall, and in the opening of the Dihong the hills diminish to a comparatively small size—over which, however, a cluster of remarkable peaks, clothed in heavy snow, are occasionally to be seen in the very clear weather of the winter months, bearing about 310°, or nearly North-west; they are evidently South of the Dihong, in its course from W. to E., and are very distant. On the opposite side of the bank rises a conical mountain (which at the mouth of the Dihong, and in that river, forms a most conspicuous object): the Abors call it Regam, and declare that it is the residence of a sylvan deity. The range continues round to the North, overtopped near Regam by a high-peaked ridge of six or seven thousand feet high, retaining its snowy covering only during the colder months. Nearly North, the tops are sometimes to be distinguished of a range at a considerable distance, which, from more favorable points of view, is seen to be a continued line of heavy snow; the opening of the Dibong is marked by a corresponding fall of the hills immediately to the North. Turning to the N. E., a more interesting group presents itself; the first and highest in the horizon is the turret-form, to which we have given the name of Sadiya Peak; its base extends to the Dibong on the left, and to the right it covers a considerable extent, allowing a more distant class of mountains to peep above its sloping sides. The next is the huge three-peaked mountain called Thigrítheya by the Míshmís, a magnificent object from the singular outline: it is succeeded by a wall always streaked with the pure white of its beautiful mantle, after one or two minor yet interesting peaks. Thathutheya, a high round-backed ridge, rises high above the ranges near the Kund, or Prabhu Kuthár; there is then a fall, but the gap is filled with mountains low in appearance, because they are distant, and the channel of the river is not there as has been supposed, though that is the place of its issue to the plains, but in fact winds round the group situated in this gap and running first to the N. W. till it washes the base to Thathutheya: it then traverses back to the

Southward. Immediately to the East, the ranges at the distance of forty-five miles are high, and snow is seen on some of them throughout the cold season, but the last peak in that direction is the loftiest to be seen (of those whose heights have been ascertained,) and so remarkable and magnificent a tower it is, that it has been ever known amongst us by the name of Beacon, and it has been seen* at the distance of one hundred and thirty miles. Turret Peak is also remarkable near to Thathutheya in the horizon, but distant, that it ought not to be forgotten. Beyond Beacon, or Dapha Bhum, as it is called by the Singfos, the lofty mountains suddenly retrograde to a considerable distance, and form a deep basin, the Southern and Eastern sides of which are alone visible ; through the centre of this basin, the Dihing winds, having its sources in the most distant point.

On the 8th of October, the river had fallen considerably, and fair weather had apparently set in when I started. I took with me ten young Khamtis from Sadiya, armed with muskets, and fifteen to carry my provisions, my sextant, and a few clothes, and, to save the labor of building a shed for protection from the heavy evening dews, I took as far as the Lúri Gohain's village a small tent. Lieutenant Burlton had been appointed to join me, but I was not informed of this till I had advanced five or six days' journey, and he was still at Bishenath. Even so small an accession of strength to our party as his company would have given me might have given my labors a successful termination: for with one staunch friend who knew how to use a double-barrelled gun, I should have been very ill inclined to suffer myself to be bullied by the barbarian Mishmís: as it was, I felt confidence only in one point, which was, that in a case of emergency, I should stand the best chance of being deserted by my Khamti followers.

I took one Hindustani to prepare my food, and one Burman to supply his place in case of his inability to proceed with me. One of the Chinese, whom I have before mentioned as taken prisoner at Rungpur, was readily induced to accompany me, by the prospect of reaching Yunan from that part of Thibet which we expected to enter, where, as I had already ascertained, some of his countrymen are always to be found.

The Lúri Gohain had left his village, at the foot of the hills, to the care of some of his people, and had resided with us at Sadiya, from the

* By Lieutenant Bedingfeld.

commencement of the rainy season. He now accompanied me, and to his arrangement and good management I looked for success, as he had more communication with the Mishmís, and possessed more influence with them than any of his brethren. A fine young Assamese noble had often expressed his wish to take advantage of my escort to pay a visit to the holy Brahmakund, and he had induced the good old Bor Gohain to consent also to join us. They, with their Brahmun,* who was to officiate at the puja, for the proper performance of which the Puranas had been consulted, and with their followers, considerably augmented my party, and afforded much entertainment by the difficulties into which they were thrown on the journey, (particularly when they encountered leeches in the jungles,) and the wonder they exhibited at the novelties of the rapids. The scenery improved greatly as we advanced Eastward and received the happiest effect from the delightful clearness of the atmosphere and the brightness of an unclouded sky. Proceeding a few miles beyond Sadiya, it is soon perceived that the Sadiya peak is not a single tower rising high into the skies, but has that appearance from its being the end of a wall-like ridge running Eastward, and indeed, when seen from the Suhat-Mukh, its lofty peak is no longer to be distinguished with certainty in the long wall, which reaches nearly to three-peaked Thigritheya. That mountain is now finely developed, and the ruggedness of its outline, seen from this near point of view, increases its improving effect. From hence, too, the heavy snows before alluded to, North of Sadiya, which are scarce seen from the station, overtopping the nearer ranges, are beheld stretching far to the East and West, filling up the low gap near the issue of the Dibong to the plains, and the direction from the opening of the Dihong affording an uninterrupted view up it to the N. W. affords a fine prospect of its faint and distant group of snow-clad peaks. But the proximity of the Northern mass of mountains does not permit us to form any accurate idea of the disposition of the further ranges, or of the nature of the country between us and Thibet.

When we reached the Kharam, we found that the floods of the rainy season had re-opened a channel which had been long dry, and known as the Morí, or dead river, by which expression they designate those branches which, by the constant changes going on in these violent moun-

* I strongly suspect that Captain Bedford was mistaken in supposing that the Mishmí Chiefs near the Kund have any thing more to say or do with the ceremony than taking possession of the offerings.

tain streams, have either dried up or lost their consequence. When within the Kharam, the changes in the grouping of the peaks brings forward a noble sugar-loaf peak, and those ranges near the Kund, now grown so much nearer, look more wild and bold. A small telescope enabled me, at Challa, to distinguish clearly a solitary pine here and there, stretching its black area forth in the midst of the white field.

The bark of the great deer, and the shrill cry of the fishing eagle, alone disturb the silence of these wilds. And a large insect, their inhabitant, makes a reiterated whizzing like the sound of some vast fly-wheel buffetting the air at every revolution. Tigers are numerous.

The further preparations necessary at Challa were to give intimation of our intended visit to the friendly Taïn tribe beyond the Kund, to prepare baskets for carrying within the hills, and to get ready for the journey the Gam of the Míshmís of the village, and two or three of his people, who were to go with us as interpreters—I had observations for latitude, which gave for my house, in the centre of the village, 27° 48′.

From the Taïns we received an answer, expressing their pleasure at our approach, and by the 19th October, we were ready to set out, having completed for each man a small basket, made flat to fit the back, with a small supporter of wood for the shoulders, and we had a stock of twelve days' provisions. The only instruments that I carried were a sextant and false horizon, a good compass, a Wollaston's thermometric barometer, and a barometer of the common kind; the former of these two I found had its thread divided, by inverting it in carriage, and consequently it would not give the difference of height from Sadiya, and, though I afterwards enjoined the utmost care to the man whose business it was to carry it, invariably found on my arrival at a new station that some unlucky inversion, in the course of the journey, had similarly deranged it, nor can this be wondered at seeing that all a man's care was employed in preserving his own limbs from injury by a fall from the rugged precipices we occasionally clambered over. The tube of the other barometer lasted a very few days.

The first night we halted in the bed of the Laït rivulet, of little breadth, yet violent enough to bring down stones of enormous bulk.

The next morning, when we passed the Kund on the side of the hill above it, we were entering on novel gound. The Bor Gohain's party had returned previously. I had sufficient curiosity to wish to accom-

pany them, but was unwilling to tire myself and party by an unnecessary expedition.

Such was the nature of our slippery and rugged path, that, although we passed the holy pool about nine o'clock, it was twelve when we arrived at the mouth of the Mtee rivulet, one thousand yards beyond it: the next reach was in the direction N. 22 E., but after a debate on our ability to proceed by the dangerous path of the river-side, it was resolved that we should avoid it, and cross the hills instead; a little Míshmí boy led the way clambering up the face of a perpendicular rock, assisted by a hanging cane, made fast for the convenience of passengers to some tree above: all that I could surmise of our direction was, that we were travelling towards the East, but whether North-east or South-east, it was impossible to say, and owing to the sharpness of the ascent, the distance got over was equally uncertain: in the evening, the Thathutheya mountain defined the limit of our movement towards the East by the help of a bearing on it, but instead of having a ridge-like form, it was now a high sugar-loafed peak, and the name only enabled me to recognise it. We had crossed one ridge, and to our North, at the base of the hill, could hear the Brahmaputra rolling along. The view was limited to the extremities of two sharp bends of the river, the hills, clothed in black forest, rose above us on each side, and Thathutheya above overlooked them.* Although we had advanced but a few miles beyond the Kund, yet it was nearly dark before we halted, not a bit of level ground, large enough to spread a blanket, could be found, and with great labor and perseverance my people scraped away a part of the hill's face, where the trunk of a large tree, acting as a support to the ground behind it, favored the operation, and over my bed-place, as the sky looked threatening, I had a few branches placed as a shelter.

A new scene opened on us when we surmounted the next ridge. We gained a much more extensive view, but much of its grandeur was lost on the hill-side by the clouds enveloping the mountains, depriving us of a sight of their summits. On our East we were glad to see low green hills, with patches of cultivation, and here and there an assembly of three or four houses: beyond a deep wide dell sunk, of which the bottom was hidden, but on its opposite side a large mountain rose from an extended base and hid its head in the canopy of dense vapours. The chasm of the

* N. B. There is something appropriate in the term chasm or pass, by which Colonel Wilford distinguishes the Prabhu Kuthár.

Brahmaputra could be seen extending to the North-east, but its crookedness limited the view and closed it abruptly.

On the side of Assam, the bird's-eye view was extremely beautiful. The mountains beyond the Dihong were distinctly visible, yet distant as they were, the undefined horizon rose far above their level, intersecting the plain—the silver river here and there exhibited its bright white light and on the right the bases of the high Northern mass were seen one beyond another projecting out into the level surface of the wide plain hovering between us and the depth below, were white curled clouds in innumerable little patches.

While standing on the ridge, the clouds which had looked threatening began to annoy us with a shower, which soon increased to a heavy fall of rain; and anxious as we were to move on, or at least obtain good shelter, we were compelled to take refuge in a small field hut, built for the accommodation of labourers, who come some distance from their homes to cultivate the more favored spots. The thermometer in the middle of the day, in the plains, had latterly stood at 83° or 84°; at twelve o'clock to-day, it was at 61°, and we found it excessively cold. The effect of a sudden change of temperature to the amount of 20° is felt much more than would be imagined, or has often been noticed by travellers.

The rain continued and confined us to our hut, but we were visited by a party of women who had been out with their long conical baskets on their backs to bring in a store of grain and roots from a distant field, and they promised us assistance from the village in the few trifles we required. In the coldest weather, they are very scantily clothed—a coarse thick petticoat of blue cotton, wove by themselves, is their common dress; it reaches to the knee, and has merely a slit in it to admit the head through. They are excessively dirty, and at all times and seasons have a short pipe in their mouths.

We could perceive one or two large houses at the distance of but half a mile on the face of the next hill, and were informed by our visitors that we might there shelter our whole party as they were empty. The next day, the rain still continued to fall heavily; but we took advantage of a slight intermission to go round the hollow to the opposite side, and were well pleased to make the exchange for a large house well sheltered from the boisterous wind. At intervals of a few feet, the Míshmís cut a square hole in their bamboo floors, and form a hearth there of earth, supported by cross beams below. These, to the number of eight or ten,

were quickly covered with burning faggots by my shivering people, and the smoke having no exit through the wetted roof, soon became an almost unbearable nuisance. I have remarked that a great number of the Míshmís have their brows habitually contracted, from the custom of half shutting their eyes against the penetrating gas arising from their wood fires. The house we were in had been deserted on account of two or three deaths of members of the Gam's family having happened in it.

The Gam of Dilling, with his daughter, a young damsel, the calf of whose leg would have measured more in circumference than both mine, came to see the white man: though dignified with rank, their appearance was no better than that of commoners. The lady was highly pleased with a string of red glass beads, and not only gave me a fowl in return, but by informing her acquaintance of the beauty of my wares, procured me other offers of barter.

Three days we remained confined to this hovel, and on the fourth, the 25th October, were well pleased at the prospect of a change; heavy masses of white clouds rolled along the dells below and rising up the hill's face, enabled us to see that on the peaks to the North, snow had fallen in considerable quantity. The sun's influence helped to dissipate the mists, and discovered to us our situation. On the West, we had a narrow glimpse of Assam; to the North, we saw the Brahmaputra deep in its narrow chasm and white with foam—the majestic peak Thathutheya closed the view in that direction, and on the East, we were separated only by the deep ravine of the Disu rivulet from the large mountain Thematheya. Snow gathers on the summits of both these in the colder months, but on Themathеya it does not remain long. We descended to the bed of the Disu by a very rugged path, admitting but of slow progress, and traversing the base of Themathеya, we approached the Brahmaputra in a Northerly direction—several water-falls were passed, and amongst them, one of singular beauty, though the stream is small: it first shoots clear over the brink of a high rock, which is nearly perpendicular and quite smooth, and then dividing into mist, almost disappears from sight till caught again near the bottom.

Our path was generally through the jungle, with now and then an intermission of grass in spots which had formerly been cleared for cultivation with vast labour. We came out suddenly on the Brahmaputra, and saw it foaming at the foot of the precipice below us, and shortly afterwards we descended to the bed, and halted on a small patch of sand.

The rocks in the bed are of such enormous size, that it is difficult to believe the river can bring them down, even in the rainy season; but they are evidently not *in situ*, such a variety of species are found. Syenitic granite—garnet rock, in which the garnets are found seven-tenths of an inch in diameter—serpentine, of a flinty hardness, and primitive limestone, are in larger quantity. The base of Themathe'ya, on our right, is of the same grey carbonate of lime, and perhaps the whole mountain. We had hitherto passed only granite gneiss and mica slate.

The river is here but forty to sixty yards wide. I got meridian altitudes of two stars, which gave the latitude 27° 54′ 52″ 4. Dilling, the point of departure, is fixed by a bearing on the bend of the river below the Kund, and others on Thama and Thathutheyas; and the observations for latitude, both excellent, limit the distance made in our day's journey, which deviates little in direction from North to South but a few miles.

The commencement of our march, the following day, was over a singularly difficult place, where the river rushes, with great violence, under the face of a perpendicular cliff. There is no path, and it is a perfect clamber, in which safety would be completely endangered by any other mode of carriage than that adopted, which leaves the hands free. We continued along the left bank of the river, to the mouth of the Lúng, where we found Ghalúm, who had parted from us six days before to have a bridge built; and for this mark of attention we were heartily obliged, when we saw stretched between two opposite trees the cane suspension bridge, by which we must otherwise have crossed. The direction of our route was still North, and we left the river where it bends from the North-west, round the base of a hill we were to ascend—that surmounted, we again enjoyed the sight of our resting-place, which had been visible from Dilling; but though Ghalúm's house was now near, in horizontal distance, a most fatiguing part of the journey remained to be performed in descending down the body of the Oo river, and ascending the opposite height. It was five o'clock in the evening when, at last, our fatigues of the day ceased. While at Ghalúm's, I had three good observations for latitude, two of Northern stars, and one of the sun, which gave 27° 56′ 33″ 2. Of the direction from Dilling, I could now be quite sure, as I not only had bearings from thence on Ghalúm's house, but could now recognise a low peak very near our halting-place at Dilling. Making every allowance for the difficulties of the path, it would appear scarcely credible,

without this best of evidence, that we had been employed the entire day in advancing less than two miles. After leaving the Brahmaputra, we passed several of the open spots formerly cultivated, and also through some fields belonging to Tharen, a village on our left. The scenery was more confined, the view being limited to the hills immediately bordering on the river, which do not rise here to a great height.

We were most heartily welcomed by our rude friends, particularly by old Ghalum, who seemed delighted with our visit, and we were (or rather I was) surrounded by the inmates of his house, and a few of the neighbours, the whole evening, all anxious to satisfy their innocent curiosity, excited by the odd fashion of my apparel, and the magic art of the invisible musician of my snuff box.

The next day at day-light, there was a great bustle without, with much noise, which I found was caused by the pursuit of one of their hill cattle called Mithun, which was to be slain for a feast in honor of our arrival. Company began to arrive at an early hour from the neighbouring villages, and when the feast was ready, we had a very numerous assembly. A large quantity of the meat was minced and mixed with flour of the Marua, then made up into cylinders of leaves, into which it was pressed and cooked: these were handed about in trays of plaited bamboos, with plenty of madh, or fermented liquor, prepared also from the Marua; but they presented me with an entire hind-leg, to cook after my own fashion, and to the better Khamtis of my party, they also presented separate portions. The Lúri Gohain alone forbore to eat of it, thinking that it too nearly resembled beef, which, not from the maxims of his own religion, but from a wish to cultivate the good opinion of Hindus he had long discontinued to taste of. I was constantly thronged, and made to exhibit my curiosities, as my gun, pistols and musical snuff box which last was kept in constant requisition.

The lower classes of the Míshmís are as rude looking as can well be imagined. Their ordinary clothing consists of a single strip of cloth, which is as narrow as its purpose possibly permits, and they wear, on occasions of ceremony, the jacket which I have already described as fashioned with so little art—it comes half-way down the thigh, and is made of a straight piece of blue and red striped cloth, doubled in the middle, the two sides sewn together like a sack, leaving space for the exit of the arms at the top, and a slit in the middle, formed in the weaving, admits in like manner the passage of the head. The hair is turned up and tied in a

small knot on the crown, and this custom serves to distinguish them from the Dibong Míshmís, whom they always designate " crop haired"—a narrow belt of skin over the right shoulder sustains a large heavy knife with its sheath. The knife serves for all purposes of agriculture and domestic economy, it is applied in the same way with the Singfo Da, to open a passage through jungle ; the other apparatus appertaining to dress consists of a broader belt, worn across the left shoulder, carrying both before and behind plates of brass, which may be termed back and breast-plates—they are of four or five inches diameter, and beaten into a carved or spherical form, but they appear to be rather ornamental than useful; a pouch of monkey's skin at the girdle is also suspended to a belt containing tobacco, the small pipe, and the case for flint and tinder, armed on one side with a strong steel. Both this and the pipe are commonly of Chinese manufacture, and are frequently engraved with letters. The Chinese of Yunan, readily interpreted the characters upon one, to signify " made at the shop of "——" should it prove bad, please to bring it back to the maker, who will exchange it." A spear is constantly carried in the hand, the head of which is manufactured by themselves, of soft iron, procured from the Singfos, the shaft is of a porous and brittle wood, and it has little resemblance of a weapon fitted for war. Their swords are Chinese made, very long and perfectly straight, and of equal breadth, ornamented sometimes with a kind of red hair. They have excellent cross bows.

The Chiefs are seen wrapped in long cloaks of Thibetan woollens, or in handsome jackets of the same, generally dyed red or striped with many colours. The head dress is not remarkable : in the fields, it is merely a hemispherically-shaped cap of split cane, and in their homes they prefer to wear a red strip of muslin, encircling the head as a turban: their ear-rings differ according to their wealth : those most esteemed (and when the lobe of the ears has been sufficiently extended) are formed of a cylinder of thin plate silver, tapering in diameter to the centre : the latter being often one inch, and the former one inch and a half.

The wives of the Chiefs are habited in petticoats, brought from the plains ; they wear a profusion of beads, frequently a dozen strings, and when they are of a sort of white porcelain, their equipment must weigh at least ten pounds ; other necklaces are of colorless glass, mixed with oblong pieces of coarse cornelian, and all of Thibetan or Chinese manufacture. The ornament for the head is a plate of silver, as thin as

paper, gore-shaped, and long enough to cross over the forehead ; one sort of ear-ring had a remarkable appearance ; it is a brass-wire ring, three or four inches in diameter, put through the top of the ear, and having suspended to it a triangular plate of silver, which remains in the direction of the shoulders.

Polygamy is allowed—the limit is only the inability or disinclination of the Chief to exchange more hill cattle for new wives. My host, Ghalúm, had then ten, two or three in the house; and the remainder, to avoid domestic quarrels, have separate houses assigned them at some little distance, or live with their relations. As has already appeared, they suffer no sort of restraint, but young and old mix with the men in the performance of every kind of labor, except hunting.

Ghalúm's riches were evident in the embellishments of one wall of the interior of his dwelling ; there, on bamboos, extending the whole length, were rows of the blackened skulls of Mithúns, Thibet cows, and those of the plains, some hogs, and a few bears, deers, and monkeys. The estimation of wealth is to be guided by the number of the skulls of the Mithúns and cattle of the Lamas, which are of the greatest value. I was, in the course of my journey, in the house of one man who is accused of the shabby trick of retaining on his walls the skulls of his father's time, thereby imposing on all but those of the neighbourhood. I understood that they were generally piled within a little palisade, which marks the spot where the Chief lies buried. Of their religion, I only learned that they sacrifice fowls or pigs to their sylvan deities, whenever illness or misfortune of any kind visits them, and on these occasions a sprig of a plant is placed at the door to inform strangers that the house is under a ban for the time, that it must not be entered. Ghalúm's house is about one hundred and thirty feet long and eleven wide, raised on posts sufficiently high to give plenty of room below to the hogs.

The morning after the feast, a number of visitors still remained, curious to see what I should produce as presents, and anxious themselves to share, though without pretensions. It had been at first intended that we should depend on Krisong, the elder brother of the three Taïn Chiefs, for arrangements in furtherance of my scheme. He is esteemed as being the more martial and decided character, and his influence in his own tribe, and with the Mizhús also, is consequently greater ; but he was absent with a party of men, to assist the Chibong Gam against an incursion of the Dibong Míshmís, at the village of the former, distant two days

journey in a Northerly direction. Had this man been present, and had he entered into our views, success would have been more probable, from the operation of fear with the Mizhús.

In his absence, it only remained to engage the services of his brothers, Ghalúm and Khosha. I presented them with jackets of scarlet broad cloth, large silver ear-rings, and red handkerchiefs, with a few other trifles, and did not omit to send to Krisong's house a similar present, though of less value. Immediately after the distribution, I observed a number of the visitors quit the house with a rather discontented air. Those who had received gifts were long busy in admiring them, and while discussing their merits, I perceived great deference was paid to the judgment of Rúding, a Chief of the Mizhú tribe, whose intercourse with the Lamas is frequent, and who laid down the law on this occasion with all the dignity and authority becoming so experienced and enlightened a traveller.

The Míshmís differ with the other hill tribes in their habit of trafficking—every man among them is a petty merchant. They did not seem to comprehend why I should be unwilling to part with any of my stores for an equivalent, and I was amused at their exhibition of cunning in attempting to draw me into making a bargain.

In the mean time, a good deal of discussion had taken place between the Lúrí Gohain and Míshmí Chiefs about our journey, in which Rúding had joined, and he soon became very anxious to have the sole merit of guiding me, laying great stress on his rank amongst the Mizhú tribe, and his great influence with the Lamas. I had observed him pretty closely, and felt inclined to hold no very favorable opinion of him. His house is so far removed from the side of Assam, that he would not have much to apprehend from our anger, and the only hold upon him resulted from his connexion with the Taïns, by marriage with a daughter of Khosha. But he was very urgent in representing that the presence of any of the Taïns with me would not be at all advantageous.

Ghalúm was very willing to set out with me, but was unluckily lame from some slight hurt; and Khosha was engaged in the momentous occupation of building a new house, and would not, on any account, desist from his personal superintendence.

My detention here for four days had caused an awkward diminution of my stock of provisions, and this was an additional reason to move onward, more especially as Ghalúm had not the means of supplying me: it was

therefore resolved to remove to Khosha's, whose fields had yielded him a more plentiful crop. On the 31st October, we set out and retraced our steps down the descent to the Zú, and up the opposite ridge; from thence we turned to the East, and passed the summit of a hill, and then moved through alternate cultivation and grass jungle on the face of the hill, in an Easterly direction, to Khosha's, and found it an easy march. The direction of our route was afterwards more accurately ascertained by ascending a neighbouring hill, whence Ghalúm's was plainly distinguished, and also the two mountains, to one of which, Thamatheya, we had now approached very closely. Again two altitudes were observed here for latitude. A view in another direction was now opened to us, but was not extensive enough to be very interesting; we overlooked the Lúng River in its South-easterly bend behind Thamatheya, and in the same direction could perceive a little snow laying on the peaks North of the Dihing.

As we seemed now, though contrary to my wish, to remain dependent upon Rúding, I had a conference with him, and admonished him of the degree of responsibility in the office he was about to undertake; on the other hand, I warned the Taïns also against assuring me too lightly of their belief of Rúding's good faith. The next day Khosha made good his promise in a manner more handsome than I expected, and, for a few seers of salt, procured me six days' provisions, with which I instantly set forward, with Khosha and his son in company: the latter was to proceed with us. Our march was in an Easterly direction, on the Southern face of some high hills; first through some cultivation, and then down a very steep descent through tree jungle, to the dell of the Indal rivulet. The ascent on the opposite bank was very steep and difficult, and after nearly three hours' fatiguing march, we were still in sight of Khosha's house, bearings on which with Thamatheya give the distance and direction of the day's journey. We halted with a Chief named Naebra, who, according to the custom of these hospitable people, killed us a hog. I gave him in return a pair of large silver ear-rings. His house is a ruinous hovel, and his consequence can be but small; but he was very officious in offering his services for my journey, and asserted that he and Rúding could ensure me against all difficulties with the Mizhú tribe. The rock appeared to be the same white talc slate, and lower down in the hollow, mica slate.

In the morning Khosha returned, and took his son with him, promising, however, to follow me to Rúding's, should Ghalúm remain unable

to proceed. He went early, without informing me of his intentions. Thus defeated in my purpose of having the security of the presence of a Chief of his tribe, I agreed with the Gohain, that further delay was to be preferred, if we could contrive some more certain arrangement.

I left our provisions under the care of a few men, and returned to Khosha's, who now seemed really concerned, and promised that if Ghalúm's lameness should continue to disable him, he would himself go with us in his place. We found that Ghalúm had actually set out, and had proceeded to join us by way of the Lúrí. There now appeared a prospect of starting in earnest, and on the 4th I was delighted to advance in the field of discovery. The party was divided, one-half returning by Rúding's, to bring on the things left there, and the other with me proceeding by a much better path down to the Lúrí's banks, where we awaited the arrival of the others. It was now evident that our going to Naebra's had been contrived only to give him an opportunity of begging, under the pretext of presenting his hog.

On the banks of the Lúrí, we marched at a good pace through bamboo jungle on a narrow level strip of ground. The Míshmís informed us that, advantageous as the level was for rice cultivation, they were obliged to relinquish it from suffering in health in the low grounds. We halted in the bed of the Lúrí on a stone bed, and posted the sentries as if an attack had been expected. The next day we continued to advance up the Lúrí, sometimes over the large boulders on its banks, and sometimes through fields and grass jungle, a little elevated above the river on the hill's side. From the mouth of the Thamé, where it joins the Lúrí from the North, we commenced the ascent of a hill by a very difficult path, almost blocked up with tree jungle ; we afterwards passed through several fields, and observed that the crests of the hills opposite were spotted with cultivation. We halted at the house of a Mizhú Chief named Mosha, who, a few months before had led an expedition to plunder the Lúrí Gohain's village, but he failed in his attempt, the accidental firing of a gun in the course of the evening giving rise to the supposition that an alarm had been given. The party had been lying in wait for the approach of night, and their cowardice is apparent from the circumstance of their actually leaving on the ground some of their weapons. When first struck with the idea that the village was alarmed, they commenced a hasty flight. Their use of poisoned arrows is in character with their treacherous and dastardly mode of warfare.

The boulders in the Lúrí are generally of sienitic granite—on the ascent of the mountain we found gneiss passing to mica slate.

Mosha, as usual, killed a hog, and was rewarded in return with a suitable present; he expressed his readiness to accompany me if I were pleased, and of course he was invited, as I considered it advantageous to throw some responsibility on a Mizhú residing near the Taïns. The great length of his house, and the number of skulls ornamenting it, bespeak him a rich man.

We were joined, very much to my satisfaction, by Ghalúm and my Burman, who had been lame and obliged to halt, by marching over so much rock.

We started early the next morning, understanding that we had a most laborious march before us to the next place, where water could be found—our course was still East, but we had left the Lúrí, which is from the South-eastern mountains. The ascent of the next mountain we found very difficult and fatiguing for some hours, very steep through heavy forest; latterly, it was more in steppes, where a sudden ascent is followed by a long gentle slope or nearly even ridge; at the summit of our high ridge, I got a very good observation of the sun's meridian altitude, and once or twice in the way up we enjoyed partial views of the tract behind us.

Our approach to the summit was marked by greater steepness and difficulty, and at last by the absence of all larger trees, which gave place to those of very stunted growth or to low bushes, indicating, by their appearance, what was asserted by our guides, that snow remains here. It may be supposed what interest was excited as each new gain on the mountain's steep face brought me nearer to that height whence I expected to overlook the unknown regions through which the Brahmaputra has its hidden course, but I suffered disappointment. Another mountain rose close to this one on its East, and where the capricious clouds permitted, through their casual openings, a passing glimpse of the rugged country beyond, all I could perceive was fir-clad mountain or a patch of snow. To the South-east the Lúrí was again perceived, and the snowy peaks were partially visible, where it has its source—it was evident that the extreme of that valley or glen was not far distant. To the North this peak is connected with others of greater altitude, and I was sorry to find that heavy clouds, in that direction, completely obstructed the view.

We had been refreshed, while halting on the top, with numerous berries of a peculiar kind, growing in luxurious branches, like currants. They are without stones, and juicy : when unripe, they are of a pure or greenish white, and when ripened, of a beautiful azure blue. We had not descended very far before we found water trickling down the rock, our path then led along the little rill, which, having frequent contributions in its progress towards the base, had become, near our halting place, a considerable stream. It was a wild spot, a complete chasm between two high mountains, where we built our little huts for the night, of such poor materials as the more leafy branches of fir trees.

We resumed our descent early the next day, and continued on the left bank of the glen, first winding to the East, and gradually more to the North, in the worst of paths ; the only support to which is often the root of some large tree, and in some places this even cannot be found, but the passage in front of some projecting rock is aided by trees bound together with cane, and their extremities either buried in the soil or fastened to the trunks of other trees.

About one o'clock we found the chasm widening, and soon after we came upon fields. The entire mountain crossed is of granite, in which the mica is not abundant. At the field I found that a green stone and sienite had taken the place of the former granite, and saw several masses of pure hornblend rock. From the fields we descended to the So, the source of which we had seen in the trickling water near the summit of the mountain—it was now a large rivulet, and no longer fordable. We next climbed up a very steep rock, which could not be surmounted but by the help of the canes which are left tied there, and about three o'clock we once more found ourselves near the Brahmaputra, and we overlooked its course from the East to the distance of ten or twelve miles.

The scene has now an entirely new character : the river washes the bases of the mountains, which on both banks rise so high as to have their tops clothed in snow : they are very steep, but near their bottoms the declivity is easy, and has the appearance, when viewed from a height, of an undulating plain. This the Brahmaputra intersects, running at the bottom of a deep channel or chasm, which has much the appearance of having been gradually deepened by the action of the water. The outline of the hills is varied and beautiful, and they have no longer the inhospitable look given by the uniform black jungles on those left behind, but are covered with alternate patches of grass and forest, with ex-

tensive intermixture of cultivated fields reaching to near their summits. A longer mountain immediately over the river appears to be of granite—on this bank the great number of large black blocks of hornblend rock and greenstone indicate that these constitute the strata.

In its onward course the river stretches to the North-west between steep mountains, and is soon lost to the view. On our march, we had occasionally perceived through the clouds very heavy snow lying on the peaks to the North, one of which I conjectured, from its shape, to be the turret peak of Sadiya. Descending from the rock we reached extensive fields belonging to Rúding's village, and travelling some distance through them, with the river two or three hundred yards off, on our right, we passed several houses built singly, but all ornamented with a small grove of plantain trees, and about four o'clock we at last arrived at Rúding's.

Much of this man's asperity of manner wore off, now that we had become his guests, and he was active in doing whatever he could for our comfort : a pig was killed as a matter of course. We found waiting our arrival my old acquaintance Primsong, who had supplied us with the earliest intelligence relative to the route to the Lama's territory.

Next day, when I talked of moving on without loss of time, difficulties were started, and the Míshmís declared that we must not think of proceeding till proper notice should have been given to the Chiefs of the next village, particularly to one Dingsha, whom they regarded as the person of greatest influence on our route—for this purpose they proposed that Primsong and Ghalúm's nephew should advance, and that we should follow and receive their report on the road.

I remarked that our arrival here did not cause the like commotion and assemblage of people, that it did at Ghalúm's. We made our purchases of rice at a dear rate, and were materially assisted in this by the Lúrí Gohain and other Khamti Chiefs, who are all skilful workmen in silver, and who readily employ themselves in fashioning ear-rings at Rúding's forge, for the purpose of barter—the workmanship giving a double value to the silver. A couple of hammers and a few punches are all the tools requisite, which they carry with them in their travelling bag. The silver is melted and poured out in the hollow of a bit of bamboo, then beaten, with great patience and perseverance, and repeated heating, into plates almost as thin as paper : by management of the hammer, they make it spread in the required direction till long enough to bend into a

cylinder, the edges are then cut even with a sort of scissors, and the parts to be soldered are notched in a castellated form, the alternate projections inserted, and a little borax, with a very thin bit of plate, laid over the joint, which the application of a little heat readily unites; a curve is then given to the sides of the cylinder, when the top is only required to finish it. The top is, of course, a circle, and when beat thin enough, it is laid on a bed of lac softened by heat, and with blunt punches an embossed pattern is then given, both the silver and the lac being repeatedly heated, to prevent the former from becoming brittle, and to soften the latter sufficiently to cause it to assume readily the indentations of the punch: in this way, with the aid of sharper punches, and some of small size, a very pretty pattern is given, but it is not pierced. All the Míshmís Chiefs have a forge, at which they make their own spear heads, and mend the implements used in tilling.

I was very anxious to proceed the next morning, but was foiled again by the lazy Míshmís; they wished to wait for the return of our emissaries, or at least to allow them one whole day for a parley with the Chiefs: with rice to eat and a house to sleep in, they could not conceive that any motive need occasion haste.

In the course of the day we learned that we are threatened by one Chief, who declares that if we come near his passes, he will roll down stones on us. I begged that he might be invited to see me, but they seemed too certain of his hostility to make the attempt.

Rúding began to talk of his present, and to hint that when he undertook to conduct us, he expected to be well paid, and he wished to know what I would offer him. I doubted his power to give any material assistance, and wished to bargain with him conditionally on his success, but of this he would not hear, and in return proposed to give back my present if unsuccessful, but in the meantime he must receive in pledge whatever he was to have, and I found that his demands would nearly exhaust my store. The obvious inference to be drawn from his uncompromising and unreasonable demands was, that conscious of his inability, he was endeavouring to rob me of all he could, and I was very little inclined to yield. However, early the next morning, I selected a larger present than I had yet given to any Chief, and exhibiting it to him, desired that he would decide at once whether or not to receive it, and give us the benefit of his services. I reminded him, that if I should fail in attempting to go without him, and return in consequence, he

would not benefit at all by my visit. But he had a stronger hold upon me than I then imagined. It alarmed the Taïns and all the Míshmís of my party, who were very unwilling to move without the security of his safe guidance.

On his declining to receive my present, I ordered a march and started, intending to see the Chiefs to whom my messengers had been sent, when I should know better with whom it was necessary to treat ; but we had not proceeded a mile when Ghalúm informed me, that he and his friends could not go on without a better understanding with the Mizhús, or the presence of Rúding : they, in fact, seemed very much alarmed. Ghalúm, at his own request, sent back to offer the coat given to him in addition to my present, and after keeping us a considerable time waiting, Rúding at last rejoined us, and consented to follow us on the morrow, upon the conditions offered.

We crossed the So by a rude wooden bridge, and traversed the hill's face a few hundred feet above the Brahmaputra, by a very bad path. The direction of the march was towards the South-east, the irregularities were only in the unevenness and rockiness of the path : the deviations from a right line were not considerable, neither the ascents or descents, and we made good way over the ground. Several cane suspension bridges were passed, and we had an opportunity, for the first time to-day, of seeing the passage made by one of them where we sat to rest, whilst several men passed to and fro. Accustomed as these men are from their infancy to this mode of crossing rivers, and confident as they must be of the stability of their safety, I observed that each man took every possible precaution before submitting himself to the awful situation of "dangling midway between heaven and earth," suspended on three light canes high above a rapid river eighty yards broad.

A stage is erected at a considerable height above the water on either bank, and well secured with large stones and canes made fast to the neighbouring trees ; the three canes composing the suspending rope pass over well secured supports on the stages at either end, and are separately fastened to trees, so that were one of them to prove not trustworthy, two still remain. Before the stages, a number of loops hang ready for use—they are made of a long cane coiled like a roll of wire. The passenger inserts his hands and shoulders through two or three of these and brings them under the small of his back ; he then, or some one for him, secures the loop with great care to a kumurbund contrived for the pur-

pose on the instant, and generally the spear put through the knot helps the security of the fastening; then throwing his heels over the cane, he launches forth on his adventurous passage. The weight of the body altering the natural curve which so large a cane must necessarily have however well stretched, causes him to descend at first with some rapidity, in which the hands are rather used to arrest the progress; towards the middle he is master of his pace, and when hanging there the cane is considerably bent from the horizontal line; now the hands are used, to drag the body gradually up the inclined rope; progress grows slower as he advances, and when near the goal he appears so fatigued, that between each tug he makes a long pause; accidents are seldom known, and I understand that they take care to renew the canes at least every three years.

Latterly, we descended to the edge of the river, and passed along its enormous boulders, rather by leaps than steps. The great mountain from opposite Rúding's still continued with us, on the opposite banks; but from our halting place it receded where the Halí River separates it from a new succession of hills of a different character, and the part of the great mountain we saw was completely clothed, towards the top, in firs. The green grass-covered hills now succeeding have many firs growing singly even near the level of the water, and they are striped sometimes, from the summit to the base, with fir forest. On the rather wide stony sand bed where we halted, we found drafted pines, and enjoyed the fine odour of the fresh turpentine. The river, for one or two hundred yards above the Halí, is so calm, that I was induced to bathe in it, and the consequence was, that my teeth chattered for two hours, in spite of the bright blazing fires of our fine pine faggots. The rock was almost inclined enough forward from the perpendicular, to save the necessity of building, and our huts were, consequently, very soon erected. In the evening, immediately after cooking, all the Khamtis were most busily employed in piling up conical heaps of sand for altars, round each of which a little trench was made. The Lúrí Gohain acting as high priest, advanced before the highest, and muttered a long prayer for our success on the journey, and concluded by placing a bunch of flowers in the apex of the cone, and strewing the trench with offerings from his ready-cooked meal. There was not the appearance of a village on either side of us. We seemed to be quite solitary, but during the evening several labourers passed us, who told us their houses were near on the cliffs above. All the rock on our route was hornblend and greenstone.

The direction the next day was still the same, or a little more South, and we passed over more level ground; several open spots were met with, which admitted of our travelling at a brisk pace. At the deepest part of this bend, to the South, we came on the steep mountain's face again, and here the path was bad in the extreme. About one o'clock we left the Brahmaputra to proceed in an Easterly direction over the hills, round which the river winds. They were here rather low and spreading out into a more even yet undulating surface; the extent of the open tract was from eight hundred yards to near a mile, and a great part of it was cultivated: in several directions houses were seen, some of them close to our path. As we advanced over this new ground, an evident improvement was observed, the houses were built on more commodious spots, each had its grove of plantains. Mithuns and chowr-tailed cows were grazing in numbers, and the men who appeared lazily standing near our path to view the strangers, were wrapped in long warm cloaks with sleeves: there were even rude walls, built of stones without cement, to keep the cattle out. At one house, Ghalúm was recognized and invited in: he promised to hear the news and not detain us a minute, but his favorite Madh being offered him, he was easily detained, and repeatedly I sent in vain to remind him that we were waiting his leisure in the rain. I wished to enter the house, but was given to understand that I should be a most unwelcome visitor. Presently we met Primsong and our messengers, who begged, in Jingsha's name, that we would halt for the night where we were, or in a spot to be pointed out, and that arrangements would be made for our better reception on the morrow, he being unable to invite us to his house on account of a sacrifice having been offered for his sick brother. We were accordingly led to the hill's side near the village of one Gúnshong, who appeared and stared at us, with many more Chiefs, but none of them appeared at all inclined to show the ordinary hospitality, though they looked at and examined us to keep aloof from further intercourse. The spot pointed out for our halting-place was closely surrounded with jungle, and little to my liking, as a surprise, if any mischief were intended us, could scarcely have been guarded against. I found it necessary however to halt here, as the people would not show us another place.

I ordered the people next morning to prepare for marching, and when ready, I was informed that Jingsha would not be ready to receive us till the morrow, and that he particularly requested we would remain that

day also where we were. I sent to say that I intended to move nearer to him, and intimated my wish, that if he had not yet finished the house which was said to be building for us, he would order a place to be pointed out where we might halt, in the vicinity of his dwelling. We set out and crossed the deep ravine of the Danh rivulet, and passed more of the open ground already described, but were soon met by Jingsha's people, who came in haste to warn us not to approach nearer to the house, and shortly after we encountered other messengers, who told us authoritatively to halt at once, or to return. I selected a convenient open spot on the top of a round hill where the jungle was twenty to thirty yards distant on every side, and there, in accordance with their wishes, caused our huts to be built. We were now told that the Chiefs of the next village could not consent to our advancing till some of the influential men of the neighbourhood should be assembled, to debate on so momentous an affair as admitting strangers to pass through their country, but they hoped that all would concur in a favorable opinion. This appeared reasonable, and though very anxious to proceed, I thought it better to allow time for a meeting of all the principal men, when I could meet them, and clearly understand with whom I had to treat. Amongst other arrivals at the village, that of Lamat Thao was announced from a distance of two days' journey, in a South-easterly direction. This Chief is in the habit of trading with the Khamti country on the Irrawaddy, and being perfectly acquainted with the Sham or Khamti language, I hoped much from the advantage of communicating so readily with him through the Lúrí Gohain ; but as my people were afraid to go across to the village, I had no means of sending to him, but through Rúding, whose interested motives perhaps prevented him from delivering my message : however this was, I only got for answer that Lamat Thao would not come. The Khamtis shuddered at the idea of his being so near us, for some years ago he treacherously murdered several families who attempted to cross the mountains to visit the Lama country. It is said that he received the travellers into his house with demonstrations of hospitality and friendship, and supplied them with intoxicating liquor, so that they fell at night an easy prey to his band of remorseless assassins. When I heard this tale, I expressed my wonder that his visits should be still tolerated by the Khamtis, and that they had not retaliated; but was informed that a present of the whole of the muskets of the murdered party had restored him to favor with the Khamti Rajah.

At twelve o'clock I got a good observation of the sun, which gave the latitude 27° 53′ 00″; this large difference from Rúding's, with the facility of taking bearings along the open river, now afforded the means of proving my scale of rates of progress, without which proof I should have been very ill satisfied with my data for a map.

Opposite, on the hill on the North bank, is the village of Samleh, the eighth stage on Primsong's route given me in march. Snow was seen on several peaks a little removed from the river to our North. On the South the tops of the nearest mountains were all partially covered with snow, forming a strong contrast with the black fir forests on them. In the South-east was the hollow of the La Thi, and nearly East, the wide opening of the Ghalúm Thi, between which two rivers the mountains rose high enough to have their more remote peaks capped with snow. North of the Ghalúm, successive snowy peaks were seen stretching away to the East, and forming a high ridge. The view was not very extensive in any direction. We were then in the deepest part of the bend of the river. To the South, about four miles from us, just before it receives the above-named rivers, it winds round the base of Samleh Hill. I made Primsong and others point out the direction of its course from the Lama country, and was informed by them that it runs from North-east to South-west without any material bend, and that the course of the Talúka, through the Lama country, is in the same direction. We could see that the gap to the North-east extends uninterruptedly a considerable distance. The mountains are covered with grass, and have on them large patches of fir forest, extending sometimes in ravines from summit to base.

The day passed away without our seeing any thing of the Chiefs, and we had not the usual concourse of curious visitors: my people also seeking trifles at some houses at no great distance, found them empty, as if the inhabitants were under alarm. This strange behaviour of the Míshmís, so different to what I have hitherto experienced, convinced me that a hostile feeling existed; but I still fully expected to see the Chiefs, who were said to be assembled and assembling, and I did not doubt my ability to talk them into perfect good humour. The next morning, however, seeing that another day was wearing away without bringing any signs of their approach, I despatched Primsong to them to request that they would pay me a visit, and understand from myself what my purpose was. I instructed him to inform them, that I had no

wish to pass through their country without their concurrence, but I particularly begged that they would come and confer openly with me on the subject, and freely state their objections if they had any. Primsong returned in great alarm at the rough reception he had met with : though personally known to and on previous good terms with them all, they threatened him as the cause of our introduction. He reported, that there were about two hundred men assembled at Jingsha's, all furnished with arms, and holding a stormy debate, and he feared that the question was already decided against us. Neither he nor any other of the party would venture again, and it appeared necessary that I should make the attempt myself ; however, the difficulty of the want of an interpreter, and the admonition of my friends as to the risk I should run, deterred me. I have since regretted that I did not go amongst them, either alone or with my whole party, as I think I might have been successful. Rúding was often to and fro ; he told us that a great number were hostile to us, but that he could and would do every thing if he received his present. In the evening he came again, making a loud clamour, like a vexed school boy, for his present. " My present !" he said, in reply to all questions. My Míshmís were anxious that I should give it to him, convinced by his assertions that he had the power yet to produce a revolution in our favor. I at last consented to put the present, precisely the same as had been selected for him in the morning, into their hands, to give conditionally, that if he were not successful, he should return it. Rúding was now highly delighted and moved off, informing me that all would be right immediately ; but he took care previously to con over and examine each article of my gifts : when parting, he called his brother-in-law aside (Khoshasson) and told him he would act wisely in returning to his home without delay. Naebra and Mosha, the two Mizhú Chiefs resident near the Taïn villages, who had received my presents, seized an opportunity of passing through our camp, and told us that they had not been admitted to the council, because they were not thought trustworthy, but that they strongly suspected, from what they had observed, that treachery was intended, and they advised us strongly neither to accept a proffered invitation, nor venture to sleep that night—this much they hastily told us, and then hurried away. Rúding returned immediately with an invitation to Jingsha : he proclaimed that all was well, a hog had been slain for us, and we were to take up our quarters in the house that night, and in the morning proceed to Harés. I excused my-

self from moving at that late hour, and Rúding did not press the invitation. He again called his brother-in-law to the edge of the jungle, and threw out some dark hints. He wound up, however, with telling him, that it would be madness in him to remain there after his warnings. Ghalúm, and the rest, were now so decidedly alarmed, that they insisted on immediate flight ; but I should mention that they had observed many suspicious circumstances which have not been stated. I considered that I ought to be guided by the intimate knowledge which they must necessarily have of the habits of their neighbours, and as they were convinced of the inutility of our remaining, unless we were prepared to proceed in hostile form, I consented to take advantage of the night for a retrograde movement. I proposed to start after midnight, when the moon would serve to guide us over the good ground to the banks of the river, when we should have daylight for the difficult path over the rocks. The people all cooked, in order that they might not be delayed in their flight on the morrow.

I lay down to rest early after posting my sentries, but I was not permitted to enjoy quiet long, the fears of Ghalúm and the other Míshmís being so great, that they earnestly begged I would not delay our flight. At half-past ten the party was arranged in marching order, and enjoined to be very careful in avoiding noise when passing the house which lay close to our path. The Chinese prepared, in admirable style, a train of wood to go on burning through the night in the midst of our encamping ground, and then, after seeing the guides and coolies take the lead, I bid adieu, with a heavy heart, to the opening mountain scenery which, three days before, I had hailed as the road to new and most interesting discovery. I found that my people, though generally so awkward, needed no hints in managing a retreat : we passed all the houses unobserved and without noise, excepting that which could not possibly be subdued arising from the heavy tread of so many men. We arrived at the rocks on the Brahmaputra, with no other accident than the fall of a poor coolie, who missed his hold while clambering down the perpendicular precipice of a ravine, where hands and feet were required with careful use of both. He fell full ten feet, but he alighted on some bushes, and escaped unhurt. On the bad path we found the want of full light, and indeed, after proceeding some time with imminent hazard of broken legs, and finding little progress could be made, (the moon was hidden from us by the hill above,) we threw ourselves on the ground and

were all quite enough fatigued to enjoy sound sleep. At day-light we resumed our retreat, and at an early hour arrived at our former halting place opposite the Halí : here the men rested to eat their ready-cooked meal.

About twelve o'clock there was an alarm from the rear, of a pursuit, and the musketeers were assembled together. On our arrival at one of the difficult precipices, the alarm was seconded by the appearance of large heaps of stones, ready at the top for rolling down on unfortunate assailants, but though it was agreed at the time that the heaps had been recently made, I believe that they had been prepared long before our coming. When we came out on an open spot in the fields, I called a halt, that we might know what sort of enemy we had to deal with, for they must inevitably come up with us sooner or later, and there came one solitary man. He was Rúding's son : the information he gave us was, that an hour or two before day-light in the morning, the assembled warriors had invested our position, and concealing themselves in the jungle, while advancing from all sides, they at last rushed upon our huts, and to their infinite disappointment, found them empty. I do not vouch for the truth of this story, nor even my belief in it, for I found that Rúding's game was now to demand a reward for his interference to preserve our party from utter destruction. We could not collect more on the subject, than that it had been the intention to attempt a surprise by night, if we had accepted Jingsha's invitation to his house, or had that failed, to wait the opportunity of the division of our party, at the crossing place of the great river. We heard also, that the multitude were inclined to retaliate on Rúding when enraged at the discovery of our departure, and we now found that even before our arrival at Rúding's, these hostile preparations were making, and that this was the reason of our finding his village so thinly inhabited. We took possession of his house for the night.

Principally to avoid the tedious ascent of the great mountain, crossed in marching from Khosha's, we adhered, on our return, to the banks of the river, and the remaining part of my journey was only interesting as it discovered the intermediate line of direction of the river to Thathoutheya mountain, and to the Kund.

I was very anxious to retrace my steps up the Brahmaputra, with a sufficient force, to overawe the Mizhus from attempting any similar treachery to that they had prepared for us. I proposed to take twenty

musketeers, and then, with the acquisition of Lieutenant Burlton to our party, I did not anticipate any further show of opposition.

Though reasoning on the advantage of doing that which has been left undone may be something foreign to the purpose of this memoir, I think it due to myself to mention the objections and difficulties which have prevented my labors coming to a successful termination, as an answer, *a priori*, to those who might suppose the facilities of pursuing this investigation greater than they really were or are.

Captain Neufville, whom I found returned to Sadiya, in a political capacity, had brought up with him, by Mr. Scott's direction, a large party of the Míris, with their Chief, whose emigration from the mouth of the Dihong and from Siláni Mor had caused such great dissatisfaction to the Abors. It was proposed to endeavour to re-settle these men at their old haunts, which measure the Abors had assured us would produce a complete revolution in their feeling towards us. The Mishmís were, of course, to be protected against any retaliatory practices of the Abors.

My opinion was, that merely to show the Mishmís, and to promise to the Abors that they should stay, would not satisfy these shrewd people, who would have required some better proof of the intention of the former to remain. I had completed preparations for my return towards the sources of the Brahmaputra, and it was with great regret* that I deferred the completion of my plans in that quarter, but I yielded partly to the opinion of Captain Neufville, the Political Agent; and what also greatly influenced me in my determination to attempt again to advance from the Dihong side, was the belief that as the Abors were aware of the presence of the Mishmís at Sadiya, they might now be better inclined towards us, and that at least so good an opportunity might not occur again for some years. I was to be assisted also by having to present to the Abors a similar present to what, it is said, was occasionally given by the Assamese Government in former times. Another reason for a greater probability of success now than before was, that I had received an invitation from the Abors of Membú to pay them a visit. During the rains I had dispatched to them my active Agent, the Lúrí Gohain, to talk on the subject of their conduct towards Captain Bedford and myself, and to

* I have regretted it ever since, as of all my plans it appeared the best calculated to ensure success; certain knowledge would at least have been obtained from the Lamas, whether the Sampo continues beyond the source of the Brahmaputra.

explain our motives for so anxiously renewing inquiries respecting the course of their river, in a favorable light: they, in reply, sent me a round stone as an emblem of the stability of their friendly inclination towards me: "until," they said, "that stone crumbles into dust, shall our friendship last, and firm as its texture, so firm is our present resolution."

Having had some experience, however, of their uncouth manners, and of their susceptibility of being suddenly influenced by the strange harangues of their native orators, I requested to have with me a small party of regular troops, who might keep the villagers in some awe, while guarding our boats and effects at the Ghat; I had also fifteen musketeers of the Khamtis, to accompany us if we should be able to advance.

We arrived (Lieutenant Burlton was now with me) at Singarú Ghat, without any remarkable occurrence on the way, and immediately sent Agakong (a Míshmí Chief, resident on the Dihong) to the Membú village, to show the before-mentioned stone, and remind them of their invitation. He brought back one of the two influential men of the place, with information that we were expected at the village, and that they should be happy to see us. In the mean time, people had been with us from Padú village, to express the wishes of the Gam and commonalty of that place, that we would remain on the sand-bank where we were, and there receive their visits, and hold a grand conference, which the Abors seemed to understand as the only reasonable purpose of our coming, or, at any rate, as the only admissible mode of communicating our intentions.

We held to our first resolution, but before we could set out the next day, more messengers arrived from Membú to inform us that they were aware of the endeavour made by the Padú people to detain us, and begging that we would pay no attention to them. This manœuvring exhibits the difficulty of treating with people who do not acknowledge one common head; but, on the contrary, are all jealous of one another, and united only in cases of general application to the common welfare.

We started, and marched two hours through a dense tree jungle, by a path admitting, as usual, but one man at a time: we then came out upon a fine patch of cultivation, extending four or five miles, and passing through a part of it, we entered a path eight or ten feet wide, and perfectly even, which continues in a direction nearly north to the Shikú. Near this rivulet, we found a slight rise in the ground, which terminated

on the river's bank in a perpendicular conglomerate. We were quite astonished at the skill and labor shown in the construction of the cane and suspension bridge thrown over at this point; it was such as would do no discredit to the department for similar works in Calcutta. Groups of trees, at either end, are so conveniently situated for making fast the canes, that the idea occurs of their having been planted for the purpose—the canes are passed over pegs in the supporting posts, and separately stretched and fastened to the different trees. There are two good main suspenders, and on these hang elliptical coils of cane at intervals of a few yards, supporting at the bottoms of them the footway, which is not more than twelve or fourteen inches wide: the ellipses are further connected by canes, running along the sides, protecting the passenger from the fear of falling; but though considerable stability is thus given to the whole structure, by connecting its several parts, there is still a very unpleasant swinging and waving during the passage. The span between the points of suspension is full one hundred and twenty feet.

The road from the bridge to Membú village ascends a low hill, and is stony. In one place, where the natural form of the rock with some artificial defences narrow the path, we found a door-way recently built of green boughs, intended, as we understood, to keep out those evil spirits who might chance to travel in our company.

On both banks of the Shikú are cliffs of conglomerate, the faces fresh from recent slips, caused, perhaps, by the undermining of the river in the rains (as the quantity of rubbish at the base is trifling.) The peaks of this conglomerate ridge are remarkable for their sharpness. Approaching the village, we first passed a great number of granaries, built apart for security against fire. The village may consist of one hundred houses, built near each other in the midst of a stony slope of easy ascent. In the middle is the "Morang," a large building which serves as a hall of audience and debate, as a place of reception for strangers, and as a house for the bachelors of the village generally, who, by their laws, are not entitled to the aid of the community for the construction of a separate dwelling. It was intended that we should lodge here, but the effect upon our olfactory nerves of certain appendages of convenience was so appalling, that we made good a very hasty retreat from it, and we had luckily received hints from the Lúrí Gohain on this subject, which had induced us to bring our small tent.

The houses are not of that great length which I have described as a peculiarity in those of the Mishmí country. The first evening there was no great crowd, and we observed the women and the people returning at a late hour from their occupation in the fields, but there were enough present to give us no little annoyance from their unceremonious manners of satisfying their curiosity, which, however, we endured patiently. One fellow set down suddenly and proceeded to pluck off my shoe, the stocking excited his astonishment, but finding it not so easy to get that off, he satisfied himself by touch that it was absolutely the fact, and then proclaimed to the wondering crowd that I had positively five toes shut up in the narrow space of my shoe. At night we were surrounded and much plagued by men, women and children, whom we only got rid of by promising them that, the next day, they should indulge their curiosity to the full; indeed the next day appeared, when it came,* to be an allotted holiday for this special purpose, and our situation was worse than that of unfortunate wild beasts at a fair, inasmuch as that we had not the advantage of cages and bars to keep our annoyers at arm's length ; our people were all suffering and complaining, for they could not command that slight portion of respect which was paid to us, and but for their extreme good nature and forbearance, blows must have ensued from the impertinence of these uncivilized vagabonds. Though I had nothing to communicate, and did not expect to be much edified by what I should hear, I acceded to their request, and went into the "Morang," where the Chiefs had assembled, together with those of Silúk also, (a neighbouring village.) They seem wonderfully fond of holding these palavers, at which their orators are heard with the utmost patience, and with the most decorous avoidance of interference. Three or four pronounced very loud and vehement orations, pressing for the return of the Sadiya Míshmís, whom they were assured we retained for the sake of profiting in revenue. I could only return general answers, and refer them to Captain Neufville, the Political Agent. On other subjects, as the motives of our wish to go through their country, they said less than I expected. They speak in a remarkably emphatic style, dwelling upon each word and syllable, in the midst of their political discussions, to which I thought there

* The village boys, at the first dawn of day, are made to go the round of the place, warning sleepy folks that it is time for labors to commence.

would be no end. One old Chief, when it came to his turn, uttered a long emphatic speech, with great gravity, and made me fear some new dilemma from an unanswerable question—but it was interpreted in very few words, to be a simple query, how we came from our own country, and what sort of a country that is? I informed them that I was the bearer of presents, to be divided, according to their own custom, amongst the Abor villages, and I requested that they would take charge of them, and give notice to the Bor Abors that the concurrence of that more powerful tribe might be had for an equitable division. They declined the office, and in return begged that I would make my own division. I had been given to understand, that the influential men would not dare to accept anything for themselves in public, but I felt the difficulty of satisfying each in private, not only from the numbers, but from my ignorance of the relative claims of each to consideration ; it was therefore by open dealing, and by the magnitude of the present offered to the whole, that I hoped to succeed.

It suffices now to say, that our visit was not attended with any advantageous result ; they would not consent to our proceeding further by land, and they assured us of the utter impossibility of our going on by water.

I seized a moment during the conference, when all appeared in perfect good humour, to put questions about the course of the Dihong, and could only learn that it comes from the West or North-west, but the Abors of this place are evidently unacquainted with it beyond a very short distance, since their country, or rather that of the Abors, which they visit, lies away from the banks of the river in a Northerly direction. Beyond the Bor Abors, on the opposite bank of the Yamuní River, are the Simong tribe, from whom the former receive the Lama goods. The Reíga tribe are on the Western side of the great river, beyond the Pasí and Mizong tribes. Some of those present were of opinion, from what they had understood, that both Reígas and Simongs have but a short distance to go to reach the Lama country. All agreed in affirming, that the Dihong is not navigable, and that it would be absolutely impossible to proceed along the banks.

The Membú people promised to inform the Bor Abors of our arrival. A hog was voted us by the Council, and also a supply of rice, but neither was given with that hospitable feeling which marks the friendly tribes of the Míshmís. It seemed as if they voted their gifts in the ne-

cessary observance of a custom, and afterwards gave them with great reluctance. These singular people acknowledge no other authority but that of the " Raj,"* or people generally, who make laws at the councils, assembled in the morang, where every one has an equal vote—but though not acknowledged by them, it is evident that some few, either through their superior wealth, hereditary esteem, or real ability, exert a very strong influence on the rest, and can readily sway them to any measure. It would be supposed that this would greatly facilitate the gaining of any point at issue with the Abors, but the extreme jealousy of the " Raj," and vigilant watchfulness to preserve their democratical rights, render it a matter very difficult to manage to bribe these influential men, and my want of success amongst them I attribute entirely to my insufficient knowledge of their habits, and consequently of the proper mode of intriguing with them. It is singular to observe in them such different shades of extreme rudeness and civilized observance of laws, enacted and allowed by them to be necessary for the good of the community. The purpose of the primary article of their clothing (which consists of a triangular piece of coarse cloth, six inches long and four or five broad at the end, by which it is suspended to a string tied round the loins) is vitiated every time they sit down, but of this they seem perfectly careless, indeed as we discovered in the evening when prompted by curiosity to enter the Morang again, the bachelors are in the habit of basking by the side of their wood fires without any covering at all, and during the day, I had remarked that in the midst of a crowd of both sides, the men did, indeed, avoid wetting their next neighbour's leg, but observed no other of the ordinary precautions of decency. However, while many others of the mountain tribes seem superior to them in some points, I have not elsewhere seen them equally ready for a labor like that of constructing the cane suspension bridge. There is more order than usual, also, in the regular mode of building their granaries. They have equitable laws to make public burthens (such as the presentation of a hog voted us that day, or erecting a new house for any member, when assistance is required,) fall equally on all. Of their religion, I learned no more than that, like the Mishmís, they occasionally sacrifice to a deity supposed to reside in the woods and mountains. The conical mountain, called Regam, they

* The similarity of this word to Rajah renders it very liable to be mistaken. Captain Bedford mentions their " Rajah."

believe to be the abode of a rather malignant demon; for they assert that any one who should attempt to pry into the secrets of his dwelling, on the summit, would surely die, as they know from experience.

It was not a little remarkable, that though the Abors are said to be the source whence the strange tales of the Sri Lohit are derived, we heard nothing about it from them; on the contrary, their geographical ideas are reasonable enough; they declare the Dihong to come from a very great distance, and that it can nowhere be crossed but by boats or rafts, being always too wide for a cane bridge. The Lama country, with which they have intercourse, is situated on the right bank of the river, evidently, because after crossing it from E. to N. to reach the Reíga tribe, they entirely lose sight of it in their progress to the N. W.

While on the subject, it may be as well to allude at once to information derived from other sources, particularly from another tribe more to the Westward. It is said that one route to the Lama country is by the Kálapaní (or black-river), which falls in beyond Meyong; it is followed up to its source, and then some snowy mountains are crossed to the inhabited country. Chokís are there placed, and they cannot visit the interior; but the town where they exchange commodities is situated on the South bank of a very large piece of water, which, as they speak of a feature in it so very remarkable to them, of its "having no current," must be a lake. The Governor of the town is named Gendu, and he wears a shirt of mail, and rides a horse—so they say. They insist that the Dihong has nothing to do with the lake, and they conclude it to be distant from it.

Here we have, apparently, the origin of the strange reports current in Assam, to which allusion has been made, of the large and magnificent river; or what is quite as likely in my estimation is, that we derive our story from those tribes who are in contact with the Bhotíyas on the West, and that the Bhotíyas allude to the veritable Sampo passing their country to the North. All the more wealthy Abors have cloaks of Thibetan woollens; indeed, scarce a man is seen amongst them without some article of the manufacture of Thibet. They wear large necklaces of blue beads, which they esteem very highly, and they profess that they are not procurable now; they look exactly like turquoises, and have the same hue of greenish blue—but a close examination discovers in them minute bubbles, marking the agency of fire; they are extremely hard, but the

only one I could get possession of, I broke with a hammer, and it had exactly the fracture of fine Chinese porcelain.

The very rude tribes, of the existence of which the Assamese have an idea, and mention by the names of Bibors and Barkans, and mentioned by the Súbanshirí Abors, under the latter name, as residing to their North, may, perhaps, be the Lho-ptra of Father Georgiús,* whose account of it need any concurrent testimony, is completely corroborated by a singular note in Persian on a map from Nepal, which I have recently seen; they were to the South of Takpo, where the Capuchins had an establishment.

After our return to our station at Shigaru Ghat, we resolved to try how far we could get up the banks of the Dihong, and ascertain the truth or falsehood of the Abor reports. The first evening we halted at the mouth of the Shiko, in latitude 28° 05', at the end of a long Easterly reach of the river, beyond the Pasí villages, and within sight of Padú, which is to the North, upon a round hill. The next day we found that the Pasí people had taken the alarm, and we had moved but a few hundred yards when we were met by one of their Chiefs, who came to inquire our purpose. Our conference with him ended by our resolving to visit his village, in hopes that we might thence advance to Bor Meyong, and which indeed he led us to expect we might do. We found the Pasí village a considerable distance inland, in a South-easterly direction, situated on the top of a small hill, and defended partially by closing up the narrow pass leading to it. It is not so large as Membú, but there are about it similar proofs that the people unite for the common good. Very fine clumps of bamboos are seen carefully railed round for their protection and preservation, for the purposes of building—there is no river of sufficient magnitude to require a costly bridge, but there is a very substantial one of trunks of trees thrown over the Shiko.

Our conference with the men of Pasí produced little good. We found them willing enough to promise, provided it were but prospectively, but they would do nothing, not even dispatch messengers to the Meyong tribe, though their reason for refusing to guide us in their direction was that they could not possibly do so without permission. They gave an

* Quod populi hi Meridionales labia gerant incissa Lho-kaha-ptra vocantur. Lho enim Meridiem, Kha os, et Ptra incissum designant. Incissionibus infundunt colores varios, rubrum, flavum, cœruleum, alios-que. Pingunt ita parentes indelebili varietate notarum tennellula labia infantium, ut cum adoleverint ore semper picti, ac variegati, appareant.

admirable answer to our threat of proceeding without their assistance, by leading Lieutenant Burlton and myself to the top of a more commanding hill, and asking us how we liked the look of the country which we proposed to march through without guides—we saw that they were right. They behaved towards us here with much greater respect than at Membú, insisting that we must gratify the Commoners by becoming lions for an hour or two, but restraining these in their familiarities.

We returned to prosecute our discoveries on the banks of the Dihong, but were accompanied by two or three of the Chiefs, who seemed very anxious to watch our proceedings. We soon experienced a marked instance of their jealousy, for arriving at the end of that reach of the river which is nearly North of Pasí, and doubling back towards the East, (after getting round the base of the low hill intervening,) we found that the North face of that hill is a perpendicular rock, rising from the water's edge, and a smile might be observed on the countenances of our friends, as they watched the effect upon us of the sight of this impediment, for they had no intention of showing us the commodious path which we afterwards discovered on our return! Determined not to be deterred so early in our career, I led the way through the brambles up the rock, and in spite of the opposition of dense underwood, we continued to advance, and we got over the difficulty—but a difficulty it really was, and our people came up very late. In the mean time we missed our friends of Pasí. We encamped on a small sand-bank, which is to the West of the Padu village, on the opposite bank—small hills filled the space to the river left by the direct continuation of the high Reging range. There is generally a small bed of stones under the base of the hills, found alternately on either bank, which would add one hundred to two hundred yards to the breadth when the river is full. At present the breadth of water was two hundred yards.

The opening of the hills now showed the direction of the river from a considerable distance to be from W. N. W. I went forward to have a better view of the next reach, and a little in advance I found a well-beaten path continuing along the edge.

At dusk, we were surprised by a rather numerous body of armed men suddenly filing down from the hill to our East. We took no notice of them, and they drew up and seated themselves in a circle at forty or fifty yards distance from us, and we found that not only the Chiefs but several of the Commoners of Pasí were here mixed with the Padu

people—whom it seems the former had alarmed with the news of our advance. They remained perfectly quiet, and built their huts for the evening. Finding them not likely to open the communication, I sent to know the intention of their coming " in such a questionable shape," and received for answer, simply, that they were there to oppose our progress towards the Bor Abor villages—the vengeance of the tribe would fall on them, they said, if they dared to permit our advance

I do not suppose that they intended to fight ; the alarm of the first musket shot would, at all events, have been sufficient to clear the field—however, it would not do to provoke actual hostility. I therefore informed them that we would not advance to the country of the Bor Abors without having previously conferred with that tribe, and that our intention was only to proceed along the banks of the river as far as we should find it practicable, and without interfering with any one, or deviating from our path to seek their villages ; that if the information which they had given us, with so many protestations of its truth, should be found correct by us, they had nothing to fear, as we must necessarily turn back, when we should find it impracticable to advance, but we begged for guides to answer such questions as we should put about names of hills or rivers. They thought this reasonable, and putting confidence in our promises, they withdrew in the morning, leaving two guides according to our request.

We continued to advance from an early hour, to near one o'clock, along the left bank, interrupted only by the unevenness of the path, when it passed over enormous blocks of stone on the very base of the hill.

The river was generally calm, and gliding with an easy current. The solitude of the heavy woods was only disturbed by the loud solemn tones of the bell-bird, which we now heard for the first time, and not being acquainted with its note, were almost assured that some solitary being, perched on the summit of one of the wild cliffs above us, was either employed in chiming his matins to the sylvan deities, or perhaps spreading the alarm of our approach ; so exactly does the note resemble that of a deep-toned bell.

We passed the mouth of a small rivulet named Shibot, and observed that the beaten path there leaves the great river : our guides soon after informed us, that we had arrived at the conclusion of our journey, and we found, in fact, that the steepness of the mountains much increased since we had left behind us those lower hills nearer the issue of the river to the

plains—was now grown very great, and a smooth perpendicular rock soon presented itself to notice, fairly obstructing further progress. There was not the slightest appearance of more favourable ground in advance, and if we did move on by land, it must be by cutting our way through the thickest cane jungles and underwood, in a place infinitely the more difficult from its situation, or the steep acclivity of the face of the mountain.

The breadth of the river was reduced at this point to one hundred yards, and it was still mild and tranquil,* but the form of the hills gives rise to the expectation of immense depth.

We had brought with us a small canoe, thinking it might enable us to get past any very difficult place, and now we got on board and set out to see whether the difficulties by water were equal to those presented by the land. The river partook of the same kind of features as we proceeded, the water's edge was bounded by smooth perpendicular rock, under which we advanced by poling against the small projections and crevices, but after getting over a distance of two or three miles, the foam of a rapid became visible as we turned a corner, and here we soon found our labors were at an end. A stone bed projected from the East bank, few of the rounded blocks of which were less than two or three feet in diameter, and many were of much larger size. The rapid could never be passed on the descent, even were it possible to get the boat up it, and as to carrying the canoe, that was impracticable over blocks of stone of such size. We advanced as far as it was possible on the stone bed, and from its further end climbed up the rock to overlook the river. The next reach was from the West, and the water quite smooth to a considerable distance, the hills high, and equally steep to the water's edge.

We had the curiosity to examine the path leading inwards from the Shibot's mouth, and after entering the jungle on the hill up which it wound, found it narrow, but still well beaten.

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* The question immediately occurs now why we did not take a section of the river: we had not the means, and the utility of providing them was not so obvious *then*. But we had taken note of every petty rivulet joining the Dihong, from its mouth upwards, and were perfectly aware that none of them contributed very sensibly to the quantity of water. Whatever the discharge of the Dihong at its mouth, we had here the same quantity nearly —the entire river—a very simple calculation shows us that—for the undiminished discharge of fifty thousand cubic feet per second, and a supposed velocity of only three miles, the depth required is only thirty-seven feet. Mr. Klaproth's objection to the size of the river, appears then not well founded,

After our return to Shigaru Ghat, we halted to allow time for the arrival of the Bor Abors. From the neighbouring villages we had constantly visitors, who come to exchange their yams or fowls for salt.

The Dúkú Chief had been down during our absence, and he now made his appearance again, a fine-looking well-dressed fellow, with very good manners, and a number of followers. When he stopped in front of our tent, he saluted us with a shrill whoop, more like the crowing of a cock than any other sound I can think of, and without appearing to take notice of us, he continued a long speech, during which he exalted his voice, as if calling to people at a distance, and never ceased beating his right foot on the ground, but every now and then the extraordinary whoop was renewed. When this was over he good-naturedly informed us that he had given us a specimen of the ceremony of meeting at councils amongst the Abor tribes. We were very much pleased with this man, but could not get anything from him either in the way of information or assistance in our project. He refused to take us to his village, on the plea that his authority would prove insufficient to protect us from the unpleasant familiarities of his people. He presented some rock salt from Thibet in the shape of large crystals. I think that their possessing this article at so short a distance from our side, is a collateral proof that they cannot have to travel very far for it.

We had little more success with the Bor Abors when they arrived, though they seemed equally well inclined towards us with the Dúkú party. They assured us that they could not venture to take us to their villages without having prepared the people for our reception, as a very hostile feeling existed, owing to our supposed detention of the Miris. They promised, however, to exert their influence, and did not doubt but they should be able shortly to send us down an invitation. They appeared to me to be sincere in professing their inability to answer our inquiries about the Dihong—they remarked that they were no travellers, and had little curiosity about remote countries. Whereas we, on the contrary, seemed very inquisitive in such matters—and it would therefore be infinitely better that we should travel and gain, from actual observation, the information we sought, as it could be but imperfectly acquired from those who did not understand our purposes. They could only hold out hopes of our being able to visit their own villages: they assured us that they had no influence with the next tribes, and that we should certainly experience much difficulty in treating with them, and should we gain a

footing amongst the Simongs or Regas, it would be but one step in moving towards the accomplishment of our wishes.

While the Bor Abors remained, we had a specimen of their skill in shooting with the bow, which was not particularly creditable to them ; the object was a trunk of a tree, at the distance of one hundred yards, which they always shot very near to without hitting. Lieutenant Burlton then indulged and astonished them by firing at a mark, placed at the extreme distance to which their arrows would range.

From that time to the present, we have had no communication of importance with the Abors. Tassur, a Chief of a tribe, removed a few miles more West, gave some hopes of preparing the way for us to a certain distance, but he himself was of opinion that we should not succeed in penetrating far enough for our purpose. However, had I been able to remain at Sadiya, I should not have failed to make the attempt.

I have always thought that, in the absence of ocular demonstration, the most valuable information respecting the ultimate course of the Sanpo, or rather the knowledge of the exact spot where it leaves Thibet, whether about the ninety-fifth meridian of longitude, or beyond the sources of the Brahmaputra, in the ninety-eighth degree, was most easily to be obtained from the Lamas inhabiting the narrow valley, on the banks of the latter river, who must know, beyond all doubt, whether their territory is or is not separated from Thibet by a large river, and must also be informed of the route of the Lassa Officers, who come down to them yearly to receive a tribute.

I have now to present the information derived from the Lamas by Múli, a Míshmí Chief of the Dibong, with whom I had long been acquainted by name, as the most influential man of the Dibong mountains. He says, Meshipú Lama told him that the Lamas call the Dihong, Lassa Chombo. (Tsongbo, he also pronounced it.) There are two branches, one from or passing Lassa, and the other, the smaller of the two, rising near the heads of the Brahmaputra. Below Lassa is a town called Kongbong,* and the river also goes by that name. The Khana Deba's country is at the source of the above-mentioned Eastern branch. The Lassa people, in their way to the Lama valley, go up the lesser Dihong, and cross over snowy mountains from its sources to those of the Brahmaputra. They

* *Cong-pou-y*, of the Map accompanying Du Halde.

occupy one month from Lassa. They do not mention any other large river nearer than three months' journey.

Between the Dibong and the lesser Dihong is a high range of snowy mountains, which prevents the Míshmís from knowing of the existence of the lesser Dihong, excepting from reports. I must add, that this information was not given in answer to leading questions.

This gives a clue which was wanting to the story of an old Assamese, now resident at Sisi, who was sold by the Míshmís as a slave to the Lamas when young, and had contrived to make his escape by the route of the Brahmaputra, hiding in the jungles by day and travelling by night. As evidence of the truth of his general statement, we have the notoriety of his captivity which led to his being brought to Mr. Scott, his acquaintance with the Thibetan, shown by his knowledge of words which we drew from a vocabulary, and his offer to accompany me as interpreter.

I twice saw this old man at an interval of eight or ten months, and having preserved in writing the names of all the places mentioned by him, had a satisfactory proof of his sincerity, by comparing the last with his former statement. His recollection, however, was not sufficiently clear to enable me to lay down any new positions.

He says, he resided with a Lama* and his wife, at the village Aprawa, at the source of the Brahmaputra, in the East, beyond the Míshmí country. He had repeatedly been on trading excursions to the Khana Deba's country, distant ten days' journey over snowy mountains the whole way; there, he says, on descending from the height, the sources of two rivers are found, one running to the West, which he was informed is the Dihong, and the other to the South. The Khana Deba's village is called Powa.

The old man always persisted that he travelled Eastwards over the snowy mountains; if, however, he were mistaken—and that, in fact, he went nearly North—there would remain no difficulty in reconciling this with the former statement.

I now prepared to accomplish my long projected expedition to the Khamti country, on the Irrawaddy, and looked with anxiety at the snow on the mountains whenever a fair day permitted a view of them, waiting till the quantity should be so far reduced that they might be pronounced

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* In the Assamese sense—a man of the Lama country, not a priest.

practicable. It must be recollected that the time of rapid thaw is not that for crossing in safety, and that the scanty clothing and naked feet of the natives of the plains make them very unfit people to encounter the hardships of a passage through very heavy or extensive snows: both these reasons probably influenced my Khamti and Singfo acquaintances to urge my putting off the trip to the proper season.

I had left it to the Lúri Gohain to make such arrangements as appeared to him necessary to insure success, and he considering it only proper to have with us some Kháku (Singfo,) Chiefs of responsibility, who might become our guarantees in case we should move through any part of the independent territory of that tribe, fixed on the son of the Gam of Latora, and a relation of the same family, named Tansantong, as both well fitted for it, and willing to undertake the office. These two, with their followers, were to add about fourteen to our number: the Tao Gohain, and one or two more Khamtis of rank from Sadiya, with their followers, numbered as many more, and for a guard we had ten fusiliers of the Khamti militia. But strong as was our party with this accession, Lieutenant Burlton and myself derived little advantage from it in our personal comfort. We had but sixteen coolies to carry both our own light equipment of necessaries, and several bundles of presents, besides the few instruments I took.

We embarked our stock of rice and our own followers on the 15th April, in canoes covered over with a thin bamboo mat: the temperature at this time varied from sixty-nine degrees at sun-rise to eighty-seven degrees at four o'clock, and in the sun it was as high occasionally as one hundred and seventeen degrees. The navigation of the Dihing, which we entered on the second day, proved very tedious: we were subjected both to delay and inconvenience by the frequent occurrence of storms. Some mention has already been made of the Dihing, (Noa Dihing), and an account given of the gradual formation of this river by the natural enlargement of previously existing streamlets, in consequence of the ancient channel having become choked with stones. It is narrow, being seldom more than one hundred yards broad, and its course is tortuous, as might be expected from the equal level of the plains which it intersects. Above Seyong, where the rapids commence, its character resembles that of the Brahmaputra, beyond Sadiya, in similar sub-divisions into small channels. The entire difference of level from Sadiya to Kasan (which may be said to be at the extreme limit of

the navigable part of its course) is four hundred and nineteen feet, of which upwards of four hundred feet are due to the twenty miles between Kasan and Seyong, and of this again, the last eight miles below Kasan must claim a large proportion. Without the aid of a party of Singfos from this place, we could scarcely have dragged the canoes up the violent rapids, immediately below it where the river, just before throwing off the Borí Dihing branch, washes the base of a perpendicular cliff, and is cooped in width. The latitude of Kasan, at our halting place, where the Pen rivulet falls into the Dihing, is 27° 30′ 25″. Between Kasan and Lugo, which was our first stage of land route, the Dihing winds in several channels in a stony plain, occasionally meeting the base of the low hills on either side. On the North bank two or three rivulets fall in, the principal of which is the Pakan. The hills on that side are low near the rivers, and are spotted with patches of cleared grounds ; on the South side they are at first two hundred feet, and gradually rise till opposite Lugo they are five or six hundred feet high, and are all clothed in heavy tree jungle. We passed the river twice by fording, though with difficulty, and opposite the little village of Gakhen we had to cross from the South to the North bank in a canoe, and there being but one, we were much delayed. We next ascended to the top of a cliff overhanging the river, and passed through a few fields and much jungle to Lugo, a village of five or six houses, and thence we descended from the cliff to the mouth of the Tungon Topon rivulet. At this point the plain terminates, and the river is seen to issue from a narrow opening in the North-east.

From Lugo there are two routes, one over the Insong Hill, directly East, which, by disuse, is said to have become nearly impassable ; and another, which was recommended to us, though not so direct, leading over a lower part of the hills, a little more North. The banks of the Dihing are said to be impracticable. We went up the Tungon, which is one continued rapid, and after proceeding some distance Northward, turned to the East, where the hill is nearly flat, and covered with heavy bamboo jungle. To the North we saw a very high wall of hill connected with Dapha Bhúm.

We passed close to the village of Píshí, and were inclined to halt there, where some sort of hut might be had for shelter, but a jealous feeling prompting the Singfos of the place to deny that we could get water near at hand, we were obliged to follow their advice and move on to the

Toonghoot rivulet, where the jungle was so thick that it was necessary to clear a space for our encamping ground. We found by the barometer that we had ascended considerably during the day, as we were now one thousand and seventy-one feet above Kasan, (one thousand nine-hundred and eleven feet above the sea.)

The path led through much jungle as before, and the ascents and descents were inconsiderable, till we arrived at the brow of the ridge overlooking the Dapha. The height commands an extensive view, but heavy clouds hung low in the atmosphere and hid the summits of the hills. There was a very steep descent, followed by steppes of narrow plains, where the fields are of the Dapha villages. We halted at Kúmkú, a village of eight or ten large houses, one of which we were permitted to occupy. The hills crossed appeared to be sandstone. We passed during the day one of those beds of white mud, of which there are several in this neighbourhood, resorted to by cattle and wild beasts of all kinds, which eagerly devour it. The most remarkable one is at Súpkong, on the Borí Dihing, where there is a bed of coal in the middle of the river, and the jungles are full of an odour of petroleum. I went to see it. There were two beds, one at a little higher level than the other, but both on the plains, filled with liquid mud of various degrees of consistence. One was twenty or thirty feet across, and the other larger. In the middle, where bubbles of air are seen constantly rising to the surface, the mud is nearly white, and is there in a more liquid state; on the edges green petroleum is seen floating, but it is not put to any use by the Singfos—neither is the coal.

Heavy rain compelled us to halt the next day, and we received a supply of rice, amounting to twenty or thirty seers, which the Gams of the neighbouring villages said was all that could possibly be collected.

It now appeared that we were in an awkward dilemma, for the Lúri Gohain and his friends, who were to have been instrumental in procuring supplies for us, now depended on me to be furnished with a sufficiency for the journey. I offered triple payment, in kind, at Sadiya, or a large price in money, but they seemed really unable to supply me, for their poverty would have inclined them to accept my offer, though amongst the Singfos, it would be considered barbarous inhospitality to suffer a traveller to pay for his food.

In the mean time the Dapha was beginning to rise, and we were advised that it would soon become unfordable (as it actually did), but we

had despatched a large party of the Khamtis to a distance to seek fo rice, and while uncertain of the result of their search, we could not venture to cross.

The barometer gave the altitude of Kúmkú, above the level of the sea one thousand five hundred and twenty-three feet ; the fall of the river between this and Kusan is, therefore, six hundred and eighty-three feet. It rained again on the morrow, but the glad tidings having reached us that the Khamtis had met with unhoped-for success, we set out forthwith.

The bed of the Dapha, from the base of the high group of mountains to the junction of the river with the Dihing, has some very remarkable features. It varies in width from half a mile at the mountains to one-and-a-half mile where it terminates ; to the bank of the valley, on the East side, is a range of conglomerate hills rising in steppes, of which the lower one (of sandstone), two or three hundred feet high, runs nearly straight and parallel with the river, with generally a perpendicular face. On the West side there are also steppes, but the rise is gentle, and the direction is not so straight. The extent of this valley appeared to be six miles in length, but as the river winds round a hill from the Eastward, I did not see the nature of the bed beyond this distance. The whole of it is a stony inclined plain, not very uneven, and vegetation has made but little progress in covering the nakedness of the large round boulders of which it is composed. The immense force of the current has worn for the river rather a deep bed, and it is reported that the suspension bridge, which is nearly equidistant (half-a-mile) from each bank, is not liable to be carried away by the floods of the rains, yet it would appear that in its various changes in the course of time the river must have alternately washed the base of the perpendicular cliffs on its East, and traversed over to the foot of the easy slopes on the West—how, otherwise, is the existence of so large a stone bed to be accounted for? The idea on first beholding it is, that it must have been caused by some extraordinary convulsion, and the destructive and overwhelming rush of a torrent of waters. The Digarú falling into the Brahmaputra, opposite Súhatu Múkh, presents another instance of similar remarkable feature, excepting that the wide part of its bed is not through hills. The extent of its open stone bed is represented in Captain Bedford's Map as twelve miles long, and it has a breadth of nearly one mile, the sides nearly straight, as if the current in its rush from the mountains admitted of no

impediment or delay. Indeed, I was informed by the natives, that both these rivers are notable for their sudden and violent floods.

I may be excused dwelling on this subject a little longer to mention a singular occurrence; while the fleet, under Captain Neufville, was moored opposite to the mouth of the Noa Dihing in 1825, the party mention that they were startled one evening by a gust of cold wind from the Eastward, which was immediately followed by a violent commotion in the water and sudden swell. Its effects were not severely felt, excepting in the very last boat of the fleet, which happened to be a Saugor row-boat, mounted with a carronade, which was whirled round and sunk instantaneously, while an immense portion of the bank was as suddenly cut away. This appeared to be a flood from the Noa Díhing, the immense force of which was not exhausted in crossing through the volume of water of the Brahmaputra, upwards of one mile, at an angle of forty-five degrees with the current of the latter. The gun-boat was never recovered.

The common bridge for foot passengers, which is re-built yearly, had been broken up in the night by the rise of water, and though with some difficulty the elephant forded at a favourable place, the current was found too strong for our ponies, which we had brought thus far. The suspension bridge, or Sakú, consists of two strong canes, stretched between stages of bamboo, which are secured in piles of the largest portable stones heaped up around them, Whenever the passengers were few, and a cheap bridge were needed, this would answer admirably. A cradle, or long basket, in which a man may sit or lie, is hung on the canes by two loops, and the exertions of two or three men easily pull it across when loaded. The "rushing" of the "arrowy" river below, with its loud roar, cause not perhaps the most pleasing sensations to the novice—but it is perfectly safe. The distance between the points of suspension is eighty yards. The view from the bridge is fine: its features are grand, the mountains are very lofty and bold—their summits were all hidden in dense clouds, but we could see some of the snow, and with the telescope the little threads of bright water trickling down from it in the ravines and chasms. There is a large gap, where the Inké falls in from the North between mountains, which we distinguished by the names of 'needle peak' and 'brown hill.' The gap is filled in the rear by a snow-capped ridge. We had gone some distance up the river to the bridge. We now returned to within half a mile of the Dihing, and ascended the sand-

stone hills to the village of Pasíla, on one of the steppes. It is a new village of six or eight houses. There is excellent ground for rice cultivation on the perfect flats of the steppes, and for grain requiring a drier soil, they have cleared a part of the hill where the slope is full thirty degrees. A very good observation gave the latitude of Pasìla 27° 29′ 54.″

We continued our march the next day, proceeding over the hill Eastward, with the Dihing on our right. We descended in the same direction and came again upon the banks of that river, where the little Inké falls in. Here, on the North bank, a narrow strip of plain stretches along under the low hills to Lujong village. We halted a while to beg for a supply of rice, which was given, and then entered the jungle where the river winds at the bottom of contiguous hills, and does not admit of passage along its edge. Opposite to the Phokong rivulet, we found a perpendicular cliff of sandstone, and were obliged to cross on rafts of bamboo. On the South bank we passed Imbong Kusar, situated in the midst of a fine little cultivated plain, and proceeded to Tumong Tikrang, where a miserable hut was pointed out for us remote from the village.

We found that a certain degree of enmity existing between the Khamtis and Singfos made the latter a little shy, but having made good our entrance into the Gam's house, we experienced afterwards a very kind reception and much attention. He promised a sufficient supply of rice to enable us to go on, and he fulfilled his promise the next morning, most handsomely giving us a small surplus, and men to carry it two stages.

We were now to take leave of the inhabited district, and enter a wild region, where no paths exist but those mode by the constant passage through the jungles of elephants, rhinoceroses, and buffaloes.

For the last two years none had traversed the wilderness, excepting the two Míshmís who were now our guides, and their only means of finding their way through it was to hunt for the notches left on the trees by themselves last, and by occasional travellers of old before them. Our coolies had each of them to carry twelve seers of rice for their own use, besides their shallow cooking pot and clothing: what they could carry in addition for us was a mere trifle each man. The elephant was sent back as no longer useful. The perambulator had been left at the Dapha with the Burman who wheeled it, who had already fallen ill. I had offered in vain a handsome reward to any one who would undertake to convey it on, and afterwards found that it could not possibly have been used.

The next march was entirely along the banks of the Dihing, the plains terminating a short distance beyond the village, where a boat conveyed the party across to the North bank. In the plains, the river is occasionally fordable, but never so up here. We kept upon the edge, making very slow progress over large blocks of rolled rock. Lieutenant Burlton discovered a sycamore tree amongst the jungle, and we observed thin strata of coal alternating with blue clay in the sandstone rock. About half way to our journey's end, we encountered every now and them a perpendicular cliff, which we were obliged to clamber over with much loss of time. The rapids here frequently deserve the name of cataract.

We halted on a small stone bed. The thermometer stood low for that season of the year, (3rd May,) much lower than at Sadiya at the same time. At sunrise it was sixty-two and a half, and seventy-four and a half at five in the evening, when the state of the barometer was noted. We were then one thousand seven hundred and fifty-nine feet above the level of the sea and two hundred and thirty-six feet above Kúmkú.

A midge, called dám dúm, common to the hills, began now to trouble us. It flies on a noiseless wing, and has no hum like the muskito to announce its treacherous attack, neither is the bite immediately felt, but a little blister is soon after seen, filled with extravasated blood, and the itching becomes so intolerable that it defies the utmost exertion of patience. Our friends with the "bottomless breeks" were infinitely worse off than we were whose hands and feet only were exposed, and indeed those of the plains were, in a few days, almost disabled by the inveterate sores caused by these abominable pests. I had seen them before in the Mìshmì hills, but it was then cold weather, and the annoyance was not to be compared with what we now found it.

On the 4th May we left the Dihing entirely, ascending the hill immediately on starting. Our guides trusting too much to themselves, on first entering the jungle, soon betrayed signs of doubt, and informed us that they had missed the way and must search back for their notches. In this search they were occupied two good hours, and a most unpleasant anticipation it gave us of what we might expect when fairly advanced into the wilderness, but our guides received the occurrence as a lesson, and invariably afterwards proceeded with the utmost caution. We had either tree or bamboo jungle the whole way, in which the leeches are innumerable; every ten minutes a cluster of eight or ten

might be knocked off from each ancle. The direction was nearly North-east, and we were proceeding obliquely across spurs of a high range, the summit of which lay to our North: we were for ever ascending or descending, and at our halting place the barometer indicated an elevation gained in the course of the day, above the level of the Dihing, of two thousand eight hundred and twenty-one feet.

The temperature at sunrise the next morning was much lower, being only fifty-seven degrees. The men lent us from Tumong Tikrang to carry rice now took their leave. We could not induce them by any offer to proceed further into the hills: two of Lieutenant Burlton's men were attacked with fevers, and we very anxiouly endeavored to persuade them to leave us and return to Sadiya, but they would not. They were probably afraid of being seized as slaves by the Singfos. We first had to descend considerably by a steep and winding path to the Moha Paní, which comes through a cleft from the North-east, and immediately commenced a most laborious ascent at the opposite mountain. The rock appeared to be gneiss and mica slate. About ten o'clock our guides sat down by a little pool of muddy water, which they warned us might be all we should see that day; they laughed, and we did not understand them quite so literally as they meant it. Again we set out on the ascent, and surmounted one height after another, each of which in succession appeared to be the summit of the mountain. We had left the bamboo jungles, and were amongst dwarf moss grown trees, which spread their crooked branches in wild irregularity, when showers passed us every few minutes and made it very cold. Our guides darted on at an increased pace, and though our eagerness to arrive at the end of our toil made Lieutenant Burlton and myself outstrip the rest of our party, we were much behind our guides. One large peak at last long deceived us with the expectation that it must be the last. Snow is said to remain on it to a late season. But the top of this, when reached with many a weary and slow step, gave us only a commanding view of the next still higher ridge. At four o'clock, after being often in danger of losing our way, we came up with our merry guides, who were sitting, cooking their rice, under the hollow of a large fallen tree. We asked eagerly for water to quench the thirst now become painful, and were answered by taps on the tree above them, and a nod of intelligence. In fact, this "diamond" of the mountain, this old hollow trunk, contained all the water that we could expect to meet with that day. It is torn

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from its roots, and it did not appear how water could collect in it, except from drippings from overhanging branches; however, our guides asserted that it gradually fills again within a few hours after being emptied. We had already learned to cook for ourselves, as the only means of securing a dinner, and we had that day one fowl left, on which to display our talents, which were ever after degradingly employed in merely boiling our pot of rice. The people were much fatigued, and arrived late, and it was with difficulty that we got a miserable hut built to shelter us from the rain, which continued all the evening. The thermometer stood at sixty-five at five o'clock, and the barometer informed us that in addition to the height of our last halting place, above the Moha, we had climbed up three thousand eight hundred and forty-nine feet, and were eight thousand four hundred and twenty-nine feet above the level of the sea.

At-day light on the 6th, the thermometer was at forty-six. The water of the "diamond" had been fairly expended the night before, and I had placed a sentry to secure a proper distribution in the morning, but it was nearly empty, and what little had collected was too dirty to use, we therefore marched before breakfast, contrary to our usual custom. After climbing one more peak still higher, we did at last perceive the summit of Wangléo Bhúm, but as it is a large cone, the path led round it as less laborious than clambering over, and after two hours' march we found a small rill of water, trickling down one of its ravines, which barely sufficed for our morning's meal. We noticed a new description of bamboo, a little below the summit on the North face of the mountain, not growing, as usual, in clumps, but singly, and having a coronet of sharp thorns round each joint. They follow the moss-covered trees of stunted growth, and prevail to a considerable distance on the descent, where heavy forests and thick underwood again occur.

It is now time to convey a better idea of our situation according to the knowledge we had then acquired. We were then crossing that ridge of mountains which separates the nearly parallel streams of the Dihing and Dapha, the commencement of which I have already mentioned as the conglomerate and sandstone cliffs of Pusíla. The highest part of its crest connected with Wangléo, by a succession of peaks, was still further East on our right hand. Beyond the Dapha, at no great distance on the North, the Beacon now bore three hundred and thirty N.

thirty W., and a high wall of mountains, capped with snow, followed, stretching Eastwards to some distance, and then turning South, giving rise to the Dapha and Dihing on this side, and to several rivers flowing into the Irawaddy on the other.

We passed nothing extraordinary on the descent, but a beech and fig-tree, the latter producing very large fruit; and some sweet scented violets. At the bottom, we emerged from the jungle on a beautiful little plain covered with short grass and fern, hills abruptly rising on either side to a majestic height, and some deeply clothed in snow closing the distance. We halted on the banks of the Dapha, at a spot frequented by hundreds of deer, elephants and monkeys. The former were too wild to allow us to shoot one.

We were still five thousand four hundred and thirty-one feet above the sea. Some idea may be formed of the rapid and tumultuous current of the Dapha, from the circumstance of its falling three thousand nine hundred and eight feet, in twenty miles of its course from hence to Kumku, where I have already stated the altitude as one thousand five hundred and fifty-three feet above the sea. We saw a new fruit of the plumb kind, with a very thin skin and good flavor ; and some wild líchís. A good observation gave the latitude 27° 31′ 20″.

The next march was, for some distance nearly East a long the boulders of the edge, or in the track of wild elephants in the jungle ; then turning more South, after the separations of the Dapha into two branches we crossed the left branch by wading, where it is fifteen yards broad, and commenced our ascent up the great pass. We halted at two o'clock in cold and heavy rain, but our people, who were now suffering very severely from fevers and swollen legs, were many of them not up till late. It was our constant employment on halting, as soon as we could get a hut built, to make a fire in front and hang up our clothes to dry ; had we not luckily been provided with a piece of wax cloth, which was of great assistance in keeping out the rain at night, we must also have sunk under this unaccustomed exposure to severe weather. The total ascent above our last halting place was two thousand four hundred and nine feet—total elevation, seven thousand eight hundred and forty feet. When we resumed our march at the ascent, early on the morrow, we were, in the space of an hour, on a level with snow, distant two or three miles, on the opposite mountains to our right and left. We could plainly trace the waters from their sources, and in the melting snow, which

still lay in considerable quantity in the ravines. The whole scene possessed, in a high degree, the features of wild and romantic grandeur. We were ascending the ridge which separates the two branches of the Dapha, and were fast approaching to the altitude where they have their origin: we were near the end of a long but large dell or chasm, of which the Wangléo, and the higher mountains succeeding it, form the one bank, and the Beacon with its high wall, of which it forms a splendid pinnacle, the other. In advance, the pass to be surmounted formed the connecting ridge between the two sides.

The trees were now growing in all directions, seldom perpendicularly, and all covered with coarse moss, excepting the smooth barked rhododendron, which was then in fine flower. Lieutenant Burlton detected both beech and ash in the course of the day, and at a great altitude we found abundance of the plant the yellow bitter roots of which constitute so principal an article of Mishmí traffic with the Lamas. On our side there were no firs, though they abounded on the Northern mountain, even at a much lower level. Towards the summit, there were some large bare blocks of clay slate. About ten o'clock we reached the snow, which does not cover the whole apex of the mountain, neither does it always lie in the deeper or more shadowed spots, but in patches, which we were frequently obliged to cross: the ground was sodden with wet, and unpleasant in the extreme to walk over. We plainly perceived that our difficulties would have proved much greater, had we made the attempt earlier in the year.

A violent storm of hail, thunder and lightning saluted us as we reached the top, and prevented our distinguishing more than that the heavy snows on our right extended a considerable distance. I shall say no more of the storm than that, at such a place, a more unpleasant and disheartening occurrence could not well be imagined. Our guides appeared much frightened, and they went scampering down the most villainous ground we ever saw, while we followed sinking to the ankles in a sodden mass of rotten leaves and moss, and pushing our way with difficulty through the thick fern. The lightning set fire to one of the fir tress on the opposite height, and we could long distinguish it burning. In the pass, we found a sad proof of the truth of the statements respecting loss of life, which has generally befallen a party making the passage. I picked up a skull said to be that of a Singfo. Very much to our annoyance we learned, from some of the party joined from the

rear, that two of Lieutenant Burlton's men had lain down and refused to move on. They were brothers, and one of them, though not himself complaining, had determined to remain by the other, who was overcome by mere fatigue ; to assist them was impossible ; carry them we could not, even had we rice sufficient to enable the people to bring them on at a slow rate. We halted on the Phúngan River, near the course of which we had descended from its sources, but it was of considerable size when we first saw it. It continued to rain very heavily the next morning, and we marched much later than usual. We were anxious to halt altogether for the day, to let the unfortunate men come up, and to recruit the strength and spirits of the whole party, who greatly needed rest. Several had severe fevers, and nearly all had swollen ankles and dreadful sores from the bites of the noxious dám-dúms and leeches. Our stock of rice, however, would not admit of a halt; we therefore continued on our descent down the Phúngan pass. The ground was sodden as yesterday, but not so bad.—Leeches and dám-dúms scarcely bearable : we once took the trouble to count the collection of about half-an-hour, and tore thirty-five leeches from one leg. We went through thick jungles of tree and prickly jointed bamboos, and occasionally came out upon the Phúngan, but the steepness of the hills allowed us to see nothing beyond the deep ravine which we were moving down, and the closeness of the trees made it extremely difficult to me to note any bearings of the direction we were travelling in. We crossed five or six rivulets which joined the Phúngan, having their origin in the snows on the right bank. We halted sooner than we ought, considering our supply of rice. Another of Lieutenant Burlton's men, a very fine young lad, had complained at starting of his weak state, but promised to come on slowly; however, he did not rejoin us.

The next morning we made such arrangements as we could to learn the state of the three now missing. We left two men at the halting place, and sent back two more, with the promise of a reward, if they should succeed in bringing on the unfortunate loiterers. We felt less anxiety about the first two who lingered behind us, as they had but five days' journey to return to the last Singfo village, and if they preferred coming on, our track was now well marked by the passage of so large a party. Our path was better to-day than that of yesterday, but the march was equally uninteresting, confined in a narrow ravine between two high mountains : the only object we ever got a glimpse of beyond it was some towering snowy

peak. The direction of our journey was not easily guessed. We crossed the Phúngan, to the North bank, half way by wading, and the remaining half by a bridge, which was speedily erected by the Singfos. We then left the banks of the Phúngan, and halted early on a little rivulet falling into it. We should have gone farther, but we were told that we should find no water until we had crossed the next hill. We picked up a walnut in the jungle, but could not find the tree. When the people rejoined us whom we had left behind, they stated that they had found the last lingerer, but that as he was unable to come on with them, they had given him a flint and steel, which he was in want of, and he promised to follow us slowly.

We set out again early in the morning, and were employed till twelve o'clock in a most fatiguing march over a hill. At the bottom, on the opposite side, we met with a small rivulet, and it was earnestly debated whether we should halt or not. The Míshmí guides were the only people of the party who pressed for making an attempt to reach the next place where water could be obtained—and their argument being a very cogent one, with the small stock of rice remaining, we went on, and, after ascending and descending two more hills, we halted at four o'clock with the guides and some of the Singfos, who appear to have more stamina than the Khamtis. The remainder of our people did not arrive till late at night, and some not till the next morning. Our own pots and rice not having been brought up, we got a Singfo to lend from his store, and our hands supplied the place of spoons, while the pot lid served for a drinking-cup, out of which we could yet enjoy our gin and water. Heavy rain all the evening ; but since crossing the Phúngan, we have always been fortunate in halting where wild plantain leaves could be procured for building our huts. The hill crossed is of sienite.

We started in heavy rain again the next morning, and descended to the Namsaï River, which appears to rise also in the Phúngan Bhúm, near the pass, and runs parallel with the Phúngan. I did not understand whether the cause of our leaving the banks of the latter was the difficulty of the path there, or that this is the less circuitous route. Both rivers flow into the Namlang, and the distance of their mouths is less than a mile. This was a most uninteresting day's journey, for we were surrounded by heavy fogs and mists, which prevented our seeing thirty yards. We went through the usual description of bamboo and tree jungle—on the side of the hill, above the Namsalï, the mud was ankle-deep, and the

leeches innumerable—fine tall nettles too, growing in the most abundant luxuriance, added to the number of our annoyances. Near the end of our march, the utmost exertion of the strength of our guides was necessary to force their way through the entangled jungle; no traces of a path existing.

We halted at the deserted Míshmí village of Aleth, to which our guides had belonged, situated at the point of junction of the Namsall with the Namlang; the people have been chiefly removed to the Tungon rivulet, under the influence of the Singfos. We found around the ruined houses a great quantity of wild raspberries of a large size and sweet flavor.

At starting from Aleth, our guides were literally obliged to cut their way to the Namlang, which we soon came out upon; it was a very pretty little river, thirty or forty yards broad, and running with a slow smooth current, excepting when a rapid here and there occurred. Low hills formed its banks on both sides. We proceeded along the edge, sometimes on the boulders and sometimes knee-deep in the water, to some perpendicular cliffs, and then through the jungles above, which are more abundant in leeches than any place hitherto seen. Every six or eight hundred paces, a fresh collection of thirty or forty might be plucked off the ankles; but the profuse bleeding which they cause is not sufficient to reduce the swollen feet of our followers, who are suffering so much that it is only wonderful that they can get on as well as they do. Lieutenant Burlton was among the rest seized with a paroxysm of fever on the march: several of the Singfos were also sick. I have omitted to mention, that I had again sent people back with the hope of bringing on the poor Assamese. They rejoined us this evening, and to our great surprise, were accompanied by one of the two men who stopped on the Phúngan pass. He informed us that he had remained until his brother expired, and that he had been four whole days without food or fire. The other poor lad was found very near the place where we left him, and was brought across the river, which he could not possibly have forded alone, but he crept into the huts of our halting place, and there laid himself down to die. We were surprised about ten at night by a very sudden rise of the river, equal to three or four feet, accompanied by a rushing and loud noise: it came so unexpectedly, that the people who had built their huts near the water had not time to remove all their things: it subsided almost as rapidly as it rose.

The next day, the path led chiefly along the edge of the water and over steep and slippery rocks. Still an unvaried aspect of dark jungle. The direction, since leaving Aleth, nearly due North. We crossed while the river was one hundred yards broad, by wading, but with great difficulty, for many, from weakness, were unable to stand against the current without help. Lieutenant Burlton had his fever again at the time. Shortly after, we re-crossed by the help of sakos, which, from the rise of the river, were nearly under water; but here the sight of some new faces gave us fresh alacrity, and we hailed our approach to a civilised country with that joy which those only could feel and estimate who had suffered from fatigue and privation as we had.

The Múlúks and Khamtis who met us were extremely civil, and welcomed us with every demonstration of good will. Beyond the first crossing place, the country opens out into a narrow valley, which leaves a small plain, at each alternate bend of the river; none of these, however, yet presented signs of habitation; but leaving the right bank and passing through a narrow belt of jungle, we entered on a cultivated plain of a mile or more in width, (to us an Eden!), and were delighted with the appearance at the further end of a nest of comfortable houses.

We were now met by two Khamtis of rank, who informed us that they came from the Raja with instructions to receive us; this could not be true, as the capital is a good day's journey distant; however, they, with great politeness, procured us everything that could be wished, and professed anxiety to be made acquainted with our wants, in order to gratify them. We were recommended by our kind friends to move the next day to another village, at a small distance, where we could be furnished with a better house; but on account of Lieutenant Burlton's ague fit, which was very severe, and also on acount of the fatigue of the whole party, we were obliged to halt. Rain had annoyed us on the march yesterday, and continued again all this day. The village is of twenty or thirty houses, built of bamboo and mats on machâns, and, contrary to the practice of Assam, they are assembled near together, with only streets between them: the buffaloes, pigs, and poultry take shelter in the lower part. The Múlúks are a distinct tribe, and their language has no affinity with that of any other neighbouring tribe. This appears very remarkable, as their number is only reckoned at five hundred houses; in former times they were an independent people, inhabiting the plains of Húpong, on the Dihing River, South of the Phúngan pass. They

declare that they were plundered and dispersed by the Singfos, and that one-half were carried off and made dependent on these marauders, while the other half fled towards the Irrawaddy, and placed themselves under the protection of the Khamtis. Their only produce is rice, marka, mustard plant (used as a vegetable), and a bad species of onion. Their dress is the same as that of the Khamtis, excepting that it is of ruder fashion, and of inferior cloth.

We removed in the morning to Námbak, another Múlúk village, at no great distance, situate on the Námbak rivulet, and fortified with a strong palisade. The intermediate plain was all cultivated, with a good path through it, improved by putting down boards at all the broken places. We passed a third village on the road. A very respectable house was given us to remain in, built to serve the purpose of a town hall, furnished all round with a boarded seat, and raised high on strong posts. The fame of our white faces and musical boxes attracted to us an immense crowd the moment of our entry, who disposed themselves, as many as they could, in the hall above, and many more under the machán, or mounted on the bamboo walls—but they were perfectly well behaved. In the evening, the Raja's two nephews and brother arrived in some state, accompanied by a few musketeers, and little Chinese gongs, to announce their arrival: they were equally polite with our former conductors, handsomely dressed, and fine-looking men. They wished us to proceed another very short stage on the 18th, to the Palanseng Gohain's village, that we might, after our fatiguing march, suffer as little as possible in the remaining portion of our journey. They appeared to feel great anxiety in the question whether we should be induced to take part in their wars with their neighbours of Múng Khamti. We made them presents of scarlet cloth and muslin turbans, with which they were much gratified.

We remained the next day, according to their request, and had the same sort of employment in entertaining the great men with sights of our apparatus, of which our guns and pistols most excited their attention. Our people were still complaining of their sores and swollen legs; indeed, several had been left at the first village, who were actually unable to come on, and it had become my turn also to fall sick. The mode of providing our party with food was, to quarter them two together in a family, who announced the hour of meals. To the N. W. we could perceive the snowy mountains at the source of the Namlang, but this was the only direction in which the view was not limited by high hills.

On the 18th we continued our journey a short distance to the Palamseng's village, beyond the Namlang, which we crossed by a rude bamboo bridge, the river below running at the rate of full ten miles an hour. On the opposite bank, we passed over some high ground, and then entered another small plain, surrounded by low hills, some of which are also cultivated. We heard the cuckoo near us. The village called Kúmtong is situated in the middle of the plain on the Namkúmtong. We here received a visit from another relation of the Raja, who came with his eight or ten followers, armed with muskets of all sorts and dates—there was one marked G. R., and some fuzees of 1780, marked U. E. I. C. We were detained another day at Kúmtong by very heavy rains.

On the 20th, it continued to rain heavily; but as this was to be the last day's journey Eastwards, and we were inclined to enjoy all the rest we could without interruption, we set out. After wading through the Kúmtong, we shortly began the ascent of the hills separating the Namlang River from the plains of the Irrawaddy. The path being well beaten was infinitely better than any we had traversed, but it was slippery from the rain, and the same sort of jungle, with which we had been so long acquainted, covers the hills. From the second, we at last, about two o'clock, beheld at a distance the object of our deepest interest; the Irrawaddy winding in a large plain, spotted with light green patches of cultivation, and low grass jungle: better eyes than mine could distinguish Manchi, the capital. To the pass succeeds a long narrow dell, gradually expanding towards the plains; but we saw no further signs of the residence of men till four in the afternoon, when we entered a cultivated tract. Soon after, we passed the tomb of some great man, built of clay, whitened over, with a vase-shaped gilt top, and surrounded with many tall poles, which are ornamented in the Chinese taste, and have long flowing pendants of wove silk; these poles had not a less tasteful appearance from being inclined from the perpendicular. We were met at last by the Raja's son, with two ponies for our use, and our approach towards the villages was noised by incessant beating on two little gongs. We passed two or three temples, all built of bamboo and grass, but of Chinese design, and on our left, the strongly stockaded village Choktep. Near the great village or town, we saw two much finer tombs, built of pucka, and having griffins and various other nondescript animals at the corners and about them. The town is closely built, but large, and fortified with a high palisade, having pointed bamboos ingeniously worked.

The first appearance of the houses strikes with great surprise those who are not accustomed to the style of building, as the floor on which the family live is completely hidden under the low projecting eaves, and all that appears to view is the open and dirty ground floor, crowded with buffaloes and pigs. The Raja's house is in the centre of the town, enclosed within an interior palisade. We passed it about six in the evening, and were led to the town hall, which is contiguous to it. As scarcely any of our people had arrived, we begged the young prince, who had been in attendance on us, to give us a dinner, after their own fashion, which he readily did, and it proved a far more sumptuous repast than we anticipated: it was served up in the lacquered Burman boxes, which had several compartments, and trays to hold rice, nicely laid on fresh plantain leaves, and a number of small China basins, containing eggs and meats, variously cooked; and, at least, so far superior to our own culinary productions that we hinted our inclination to have a breakfast in the same style. They most obligingly continued to provide us while we stayed, and we generally had presents from other families also, at the known time of our taking our meals. They also gave us a spirituous liquor, very much like whiskey, though inferior in strength, which was the more acceptable, as our own small stock was nearly exhausted.

At noon, the next day, the Raja, as he was called, paid us a visit in state. He was preceded by four or five small gongs, about five and twenty musketeers, several sword and shield-bearers, and a gilt chatta, the last given him by the Burmans. The shields are of substantial buffalo hide, well formed and varnished black, with gilt devices on them. The swords were all Burman. He maintained so much reserve that our conversation was not very interesting. After avoiding to give an answer to several questions of a trivial nature, on such topics as I considered required neither privacy nor previous consideration, he hinted that he could be more communicative in the absence of the crowd. Amongst other questions, I asked whether they had historical records similar to those kept in Assam, but at this time I got no direct reply, and afterwards, during our stay, could never get the chiefs to allow that they had them, though informed by the Lúrí Gohain, that it is a custom in each village to treasure up a record of all remarkable events. He spoke of the system of warfare and mutual aggression, which has endured for the last fifty years, without either side having gained a material advantage over the other: he lamented it, but saw no prospect of its termina-

tion. Our friends had, but a few months before our arrival, suffered the loss of the larger village Múng Khamti, which had long been their capital, and they informed us that they were now debating measures for surprising and recovering it in their turn. All our presents were very much admired, particularly a handsome cut glass bowl, but our guns and pistols excited by far the greatest interest.

After his departure, the visit of another Raja was announced! and though introduced with much less state and ceremony, I discovered that a mistake had been made in attributing to the former the chief share of authority. When the matter was afterwards cleared up, it appeared that the aged gentleman now with us is the Legislator; while his nephew, as a man of action, holds the executive power, in the capacity of War Minister and General. The manners of the old man, the Búra Raja, were remarkably mild and pleasing; he expressed great curiosity about us, and regretted much the want of a ready communication, which alone prevented his putting the numerous questions which he would be glad to ask. He said that the only drawback to the pleasure he experienced in seeing us was the fear he had of the Burmans putting misconstruction on our visit, and of their taking advantage of it to oppress him and the country anew. We represented the friendly state of the two powers, and endeavoured, by such arguments as occurred, to lessen his fears; however, if there be any danger, it is yet remote, for a long period has elapsed since a Burman party has visited the country. Finding him less of the wary politician, and of a more frank and communicative disposition than his nephew, I in my turn made some geographical inquiries of him, but I found his information very limited. The Khamúngs inhabit the lower mountains, beyond the Irrawaddy, visible at the distance of twenty or thirty miles to the Eastward, and a pooorer and more savage race, the higher ranges. The former supply the Khamtis with salt, and have the art of forging the Daos, or swords, so much in request; the latter are scarcely known by name, and are said to be naked and barbarous; their habitations are not supposed to extend to the other side of a high range which is in winter snow-capped. The Lukyang, or other Chinese rivers, are not known. With the Lama country, there is no immediate intercourse whatever; traffic is carried on, as in Assam, through the intervention of the Míshmís, who cross from the La Thi (falling into the Brahmaputra,) to the Namseya, the principal branch of the Namlang. No road exists by the resources of the Irrawaddy. Majestic peaks, covered

with perpetual snow, are seen from hence, in which the Irrawaddy and one branch of the Brahmaputra have their rise.

I was lame from an unpleasant sore in the foot, contracted on the march, and Lieutenant Burlton was not at all in order for moving about. On the third day of our stay, however, I strolled out to the temple, and saw the chief priest, a fine old fellow, who was completely delighted with the wonders he saw: he and his attendants subjected me and my dress to a very close examination, laughing heartily: the only question they put was whether our clergy take to themselves wives or not, and on being answered in the affirmative, they raised a roar of laughter, and the Chief assured me he was quite shocked. The thatch-roofed temple is neither so large nor so elegant as some of those seen on the way; nor is there anything remarkable about the gilt images of Godama, or the ornamental work within. A gift of a few rupees delighted the whole of them, though the only use they have for money is to enrich their temple with new ornaments, or to purchase some trifling luxury. Their customs appear precisely the same as those of Ava. Early every morning, we saw three or four of them hurrying through the streets of the town, preceded by a boy with a little bell, each holding a lacquered box, in which he collects the offerings of the people, presented generally by the women, who stand waiting at their doors with a portion of their ready-cooked meal.

We took advantage one evening of a requisition for our musical boxes, to introduce ourselves into the interior of the Búra Raja's house. We found it spacious, the South end terminating in an open máchan, or terrace of bamboo work, and a second enclosure within divided the private apartments from those which, at all hours, appeared open to the populace. To give space in breadth, two houses are erected contiguously, and a trough of wood closes the aperture between the thatches, and serves to carry off the water, which would otherwise descend into the house. The women, few of them boasted much beauty, and they were plainly though neatly dressed; they behaved with great decorum, and sat together along one side of the room. The men turn up their hair, and form a large knot with it on the centre of the head; but the women, either from the natural profusion of their tresses, or from their taking more care of them, far excel the men in the height of their top-knots, which they wear nearly in the same fashion, but divide it with silver ornaments and small glass beads. Their petticoats accord better with our notions of female delicacy than the odd dress of Burman ladies.

According to previous engagement, we paid a visit to the warrior Raja, who resides at Phankaí nearly three miles from Manché. The road was over a perfect plain, partially cultivated, and prettily studded with clumps of trees and bamboos. The country is not unlike Rewa, excepting that it is not varied with similar undulations. It is intersected by a number of little rivulets. Phankaí is also strongly stockaded, and an interior palisade surrounds the Raja's house. A separate dwelling had been prepared for our reception, but either through ignorance or want of politeness, the Raja kept us waiting full half an hour; and when he did come, upon a hint that we were growing tired, he seemed to consider himself quite at home, wearing a very shabby dress, and observing none of that ceremony which had been remarkable in his visit to us. No conversation passed of either moment or interest, for he exhibited uneasiness with us, when questions were put even of the most simple nature. We were anxious to make arrangements for a visit to the Irrawaddy, which we could not well contrive at Manché on account of the enemy's stronghold, Mung Khamti, being in the way They met our proposition as usual, with a long list of difficulties and dangers, and would by no means consent that Lieutenant Burlton and I should mount their ponies, and trust to our own good management for encountering the enemy without hostilities resulting. They objected to everything but going in posse by the nearest route, with drums beating and colors flying, and indeed they played their part very well to get our aid in a brawl with the opposite party. When however they found us fixed to have a sight of the Irrawaddy, and to avoid fighting where we had no quarrel, they consented to furnish ponies and a guide that we might see the river higher up at a point sufficiently removed from danger. A dinner of inferior cookery to that we had been used to was presented, and we were much pressed to remain a few days—however, we liked our former quarters much better. In the evening, the women all assembled on a large mat extended on the turf, to hear our musical box. Neither they nor their men were in holiday suits, but they looked very clean and behaved well. Their high head-dress is very singular, and not altogether inelegant. In the morning, we went off at an early hour, accompanied by a guide mounted on a third horse, and in two hours we crossed the plains obliquely to the river's edge.

The Irrawaddy we were surprised to find but a small river, smaller even than we anticipated, though aware of the proximity of its sources.

It was not more than eighty yards broad, and still fordable, though considerably swollen by the melting snows; the bed was of rounded stones, and both above and below where we stood we could see numerous shallow rapids similar to those in the Dihing.

As to the origin of the Irrawaddy, I felt perfectly satisfied from the moment I made inquiries at Sadiya; but since further evidence, founded on the report of the natives, might not have satisfied th se who had adopted Mr. Klaproth's opinion, that the waters of the Sampo find an outlet through the channel of the Irrawaddy, I had resolved, if possible, to have ocular and incontrovertible demonstration; and I could not help exulting, when standing on the edge of the clear stream, at the successful result of our toils and fatigues. Before us, to the North, rose a towering wall, stretching from W. to E., offering an awkward impediment to the passage of a river in a cross direction, and we agreed on the spot that, if Mr. Klaproth proved determined to make his Sampo pass by Ava, he must find a river for his purpose considerably removed towards or into China.

The scenery was of the finest order, and its effect was heightened by the thin mists hovering on the bases of the blue mountains. One majestic peak to the North, peeping from a mantle of light clouds, was very conspicuous from its superior height, and from its deep covering of pure white snow, and the long ridge leading away from it to the Westward was similarly clothed, but streaked with shadows of delicate blue. On the E. and W. were peaks heaped on one another in the utmost irregularity of height and form, and at all distances. Our guide pointed out the directions of the two larger branches uniting to form the river, the Namkiu, by which name the Khamtis distinguish the Irrawaddy throughout its course to the sea, and the Namyen, the Western branch; the mountain, at the source of the latter bearing 315°, and the former 345°. We could also perceive the snow to the Westward, some continuing as far round to the S. W. as 240°. The plain we rode over is covered with low grass and crossed in several directions by narrow belts of tree jungle, which mark some water-courses filled in the rains. A great part of this plain is said to have been cultivated before the disturbances and dissensions introduced by the Burmans; and there were many Khaphok villages on it. South of where we stood, the river takes a bend inward towards the West, round the base of a low ridge which projects from the hills on that side.

The climate appears very similar to that of Sadiya, at the same period. After rain, the thermometer fell five or six degrees, and the air was delightfully clear, while the sky was partially covered with thin clouds ; but within three or four days the atmosphere thickened, the thermometer regained its highest range, and it became excessively close till another storm relieved us. In the morning, at sun-rise, the range was from 72° to 78° in the shade, and at the hottest time of the day, from 84° to 94°. The nights were comparatively cool and pleasant. The duration of the rainy weather is about the same as in Assam. Three or four months in the year, or from the 15th October to February, may be calculated on as clear and dry, and the remainder is perfectly uncertain—however, the heavy rains set in about the 15th June, and continue to the 15th September.

The elevation above the sea, marked by the barometer, is one thousand eight hundred and fifty-five feet. If Bhammo be five hundred feet above the sea, which would be equivalent to a fall of the river of eight inches each mile, there remain one thousand and three hundred feet of fall in the three hundred and fifty miles between this place and Bhammo, which sufficiently accounts for the greater part of that distance being unnavigable, excepting for small canoes.

Several observations during our stay gave the latitude of Manché 27° 29″ 16·5, and that of Phankaí, the Raja's place, 27° 26″ 13·6.

Confined to the house by lameness, and unable to go abroad to make researches, we were generally employed in entertaining a crowd of visitors, who, without ceremony, and at all hours, mounted the steps, and sat themselves down in the hall, which was common to ourselves and followers.

I have already mentioned, that I received very unsatisfactory answers to my questions concerning their history. I was induced to defer making any notes on the subject at the suggestion of the Lúri Gohain, who reminded me that at Sadiya I should meet with men equally capable of giving the information, who would excercise no reserve in their communications. At Sadiya, however, my unfortunate illness prevented my prosecuting inquiry either on this or on many other points which I had reserved for greater leisure. With respect to their history, I can only notice here, that the Khamtis are supposed to have been in possession of the country from about the same time that Assam was conquered by another party of their nation. They are Shams, and came from that

part bordering on Yunan and Siam. Whether or not they are, as Mr. Klaproth supposes, of Tartar origin, I cannot pretend to decide; but if they be, the period of their migration into the Sham provinces must be very remote, since all traces of their original language have been lost. Here they are insulated as a people; a very extensive district, inhabited by Singfo tribes, intervening between them and the nearest place where the Sham* language is known. They informed me that, according to their traditions, the country, at the time of their arrival, was occupied by Lamas and the Khaphok tribe; however, I could discover no similarity between the languages of any of the tribes of the immediate neighbourhood and that of the Thibetians; and it is difficult to imagine that, if intercourse ever existed with Thibet, it should have been entirely dropped, or that the barbarian Míshmís should ever have been suffered to become the only channel of communication with the parent country.

The Múlúks have already been mentioned as having a peculiar language. The mass of the labouring population is of the Khaphok tribe, whose dialect is closely allied to the Singfos, yet sufficiently different to cause embarrassment to both parties in holding converse. In the language of the Khanúng, who inhabit the mountains to the N. E. and E., a few words are found resembling the Singfo, but it may be pronounced a distinct language. That of the Khalang tribe, whose villages on the Namlang, subject to Manché, will be spoken of hereafter, resembles the Singfo more nearly, as also does that of the Nogmún tribe, who are on Nam Disang. But none of these dialects are at all allied to the Sham or Khamti. This small tract, perhaps, affords an unparalleled instance of seven dialects being spoken at villages remote from each other only one day's journey, which differ so much that the inhabitant of one would not be understood at the other. The difficulty which would arise is got over by their all acquiring a sufficient knowledge of the Khamti.

The only important geographical information obtained was relative to the course of the Irrawaddy to Bhammo, and the large Eastern branch falling in at about two days' journey above where the road turns off to Múngkúng. This river had hitherto been a stumbling block in reconciling the accounts of the Singfos and Burmans. The latter

* It may be proper to observe, that according to the Lúri Gohain, the Khamtis speak precisely the same language (Shams) with the Shams of Múngkhúng, or those from beyond the Irrawaddy. It has not yet been ascertained whether the Siamese language differs in any respect from theirs, or is materially the same.

appear generally to be unacquainted with it, which is to be accounted for simply by their turning off towards Mognon, having the Irrawaddy at some distance on their right; the Singfos, on the contrary, know nothing of the river below them, and their route towards Assam enters the Húkúng valley from the Eastward.

Of the existence of the Shúmaï Kha, Pongmaï, or Sinmaï Kha, (for by all these names it is known,) there could be no doubt, after the distinct reports of the Singfo ambassadors, mentioned in an early part of this Memoir, the difficulty was to ascertain where it joins the Irrawaddy. The required information was now most satisfactorily obtained from Chow Nan, the son of the last ruling Khamti Prince, and it was fully corroborated by a Khá'ku Singfo of my party, who had resided many years in that quarter, and some in Yunan. Chow Nan had been twice by the route of the river to Amerapura, where he had remained several months in the character of envoy, or perhaps of hostage. They gave me a skeleton map, showing the principal streams falling into the Irrawaddy, on the East bank, and the number of days' journey between each from Manché to Bhammo. They are of opinion, that the Shúmaï Kha rises in the Northern mountains, at no great distance Eastward from the heads of the Irrawaddy, but had no positive information. It is to be remarked, however, that the Lou Kyang, bordering Yunan on the W., makes it impossible, according to the maps of the Jesuits, that the Shúmaï can come from China; and the objections to assigning it a very distant source are, first, its want of magnitude, for it is not described as larger than the Khamti branch, the direction of the high range which would require it to break through the most elevated ground in that quarter, and, in fact, the want of room.

Curiosity led us to be present at one of the weekly markets, which are regularly held on the plain outside the gate of the stockade, and we were much pleased at the orderly manner in which the business was conducted, without any of the haggling and din of a bazar in Hindustan. We found two hundred or three hundred buyers and sellers assembled in a crowd, but separated into groups, for the sale of each particular article, so that a buyer could readily take his choice from all of the kind exposed. The currency of the country is the thin iron *da*, manufactured by the Khanungs: for some of these each comer exchanges his uncoined silver, weighing it carefully in little scales which he brings with him, and the *das* he again exchanges for the articles required. We observed for sale

dried fish, salt, fowls, eggs, pigs, ginger, onions, tobacco, lead, *das* manufactured from the former kind for use, and some few things more. The salt was of good quality, but excessively dear—about half a seer for a rupee's weight of silver.

On the 25th May, I paid a visit to the Búra Raja, to talk of our return, and was instantly promised a supply of rice and whatever else they could furnish for our journey. He smiled at my offer of payment, and answered, that he should be heartily ashamed to accept an equivalent for such trifles. His good will did not lead him to oblige so readily in another affair which we had to discuss with him. We had been given to understand, principally by our young friend, Chow Nan, that the upper road to the Phúngan pass would be far preferable for us on the return, as it would save at least two days' journey, by avoiding the deep bend of the Namlang to the South, and present no more difficulty than the one we came, excepting that the trouble would have to be incurred again of opening a path through the jungles of the low ground, but that would be fully compensated for by our ascending sooner out of the region of rank jungles and close under-wood. The old man, when this was mentioned to him, allowed without hesitation, that the upper route is by far the best, and said he could not oppose our going that way if we were determined to do so, but he very earnestly requested that we would not, as he was anxious to prevent the Singfos from becoming acquainted with it, and indeed our own followers also, who might become competent guides to their more mischievously inclined neighbours. He said he both feared and hated the Singfos; and those of our party, were they not under our protection, should not return through any part of his country. To Singfos he already owed the loss of the Aleth people on the Namlang, and it was because his Khálang villages are so near the foot of the pass on the upper route, that he felt so much anxiety the present moment to keep that shut up, and if there were to be any intercourse with Assam, to make the high road the way we came. We had to state what appeared a satisfactory answer to his objections; that our own guides (and many more) were well acquainted with the forbidden path, and consequently that our travelling in it would scarcely affect the question. We had a sort of horror in recollecting the leeches, the dám-dúms, and the mud and jungles of the Phúngan; but we promised to respect the wishes of the good old Raja if he continued to hold the same opinion.

It is a singular custom amongst the Khamtis, that the principal amusement of their Chiefs is working in metals, in which practice renders them infinitely more skilful than the lower classes, who, perhaps, cannot spare much time from their labors in the field. Amongst the specimens shown us of their art, we saw a well-fashioned musket lock. Another was a massive pipe-bowl of brass, which had griffins for supporters, very boldly designed. Both of these were executed by the Búra Raja's brother. Their ordinary silver pipes are of very neat workmanship. They were very curious about any little mechanical apparatus that we had with us, and astonishingly apt in understanding it. At their desire, I opened the lock of my sextant box, and drew for them figures of its various parts, from which they assured me they should be able to imitate it. I also opened and explained to them the uses and connexion of the separate pieces of a musical snuff-box, which I intended for a present to the Raja. They were highly delighted with it, but they expressed their fear that they scarcely understood it well enough, upon so hasty an explanation and inspection, to enable them, in my absence, to detect the cause of derangement, should it get out of order. I also gave a pair of magnetic bars, which had excited their attention; not more by their property of giving direction to needles, than that of assisting in the detection of iron ores, which I exhibited to them by driving off the sulphur from some pyrites, the nature of which they had been ignorant of till then. They expressed great delight when I showed them that sulphur, for which they paid a very high price to petty Singfo traders, could be readily obtained, at small cost, in their own country. They immediately brought me the Galena, from which the Kanúngs, by a process which they kept secret from them, procure the silver, and they asked me for an explanation of this enigma, but it was too late to get cupels made, and I failed, from exhaustion, in attempting to oxidate it with nitre: before the blow-pipe, however, I gave them such instruction as I could. They promised to manufacture a still, after my projected improvements, and as they are fond of their whiskey I dare say they will. It is rather singular, that their still resembles very closely the one described by Turner, as common in Bhotan; it consists of a boiler, cut out of the soap-stone, with a cylinder of the same material closely fitting on, and having iron bars at its bottom to sustain a small China basin. The top of the cylinder is closed by a concave dish of brass or copper, which is kept filled with cool water, that the ascending vapour being

condensed upon it may trickle down towards the centre, and drop into the basin, which is placed there to receive it.

After the departure of Lieutenant Burlton to Kumtang, whither he had removed to avoid the heat and inconvenience of the crowd which aggravated his fever, I received a message from the Búra Raja to entreat me to comply with the wishes of the Múnglang people, who had arrived from their villages at Námlang Múkh, and were pressing him to use his interest with me to persuade me to visit them. Not understanding the cause of his anxiety, I went over, and learned that they had threatened him with complaints to the Burmans, and not he alone, but all those assembled, prayed me to avert the evil which might ensue, by gratifying these people. I in vain urged the length of journey we had to perform, and necessity of not delaying our departure, but thinking their motive might be a more interested one than that of giving their people an opportunity of seeing me, and themselves enjoying the pleasure of paying me attention, I tried the experiment of making a present, and found their eagerness immediately lessened. The Raja hinted his wish that I would give them all I could spare. They soon after took their departure, and then instantly I saw some tablets produced, and the old gentleman and his council, with better recollection than I should have expected, made a list of my presents, including every item. This, it was explained to me, was intended as a record to enable them, in case of the Chiefs of Múnglang accusing them to the Burmans, to show that they also had been equal sharers in whatever had been given by us. The Raja afterwards candidly confessed, that he was anxious for our departure, and that it was at first his wish to furnish us with rice, and request us to return from the Múlúk villages, which he would have done, but for consideration for his relatives, the Sadiya and Laong Gohains, whom he might have subjected to our displeasure by such an act. He was under great apprehension that the Burmans, when informed of our visit, would suspect him of having invited us over, in order to arrange for the removal of the Khamtis into our own territories. I was happy to find that he no longer objected to our returning by the upper route.

According to promise, a specimen of the tea-tree was brought to me from one of the neighbouring low hills; it was a full-grown one, that is, about five feet high; the leaves were coarse and large, and not numerous. Their mode of preserving it is to drive the leaves when fresh, by strong pressure, into a bamboo, and some salt, I think, was added.

Several presents were offered me of things which would have been deemed curious, but I could not accept them, as I had not sufficient means of carrying even those things which were absolutely required.

On taking leave, all our friends accompanied me to some distance from the village, and the Raja's brother, called the Palanseng Gohain, was deputed to see us properly provided, at the Múlúk villages, with a store of rice.

I observed on the return, that the hills between the Irrawaddy and Namlang, at least those on the road, are of mica slate; at the base, near the Khokhao rivulet, I saw some of the blocks of soap-stone, which they employ for culinary vessels; it appeared to be Nacrite; it is extremely sectile, and is said to bear the strongest heat uninjured.

At Námbak, on the 31st May, we, for the first time, had an opportunity of observing some lunar distances, which, however, were not very satisfactory, as clouds interrupted us frequently at the moment, and prevented our getting corresponding altitudes in the afternoon for time, also the latitude of Námbak was obliged to be inferred from that of Khalang. Plains, partially cultivated, extend to the Khalang villages, and about them there is an extended patch of fine rice fields. There are two villages, each of about twenty houses. The people are short muscular men. dressed in a very inferior style to the Khamtis. We were persuaded to halt one day, while a party went forward to cut the path. Of Lieutenant Burlton's men, who had been left at the first Múlúk village, that they might enjoy as long a rest as possible to cure their sores and swellings, three were still in such a state that their proceeding with us was out of the question, and one of mine had absconded, so that we were at a considerable difficulty in arranging for the carriage of our small baggage, diminished as it was by the numerous presents given to the Khamtis, and were obliged, after a close inspection, to discard the smallest superfluity. As this was the period requiring most attention to their cultivation, we could not induce the Raja to give us men on any terms. The ulcers on our own hands and ankles, proceeding from the dámdúm and leech bites, would not get well. The former troublesome insect abounds to such a degree at Khalang, that it is wonderful the people can endure to live there. There is a very pretty temple situated a few hundred yards from the village, surrounded by a square court-yard, which is neatly kept, and is planted with plum, peach, and other fruit trees. The latitude of Khalang, by a good observation of S. Urs. Maj., was 27° 32′ 23″.

On the 2nd June, at an early hour, we were fairly on our way to return, anxious enough to see our neat built house at Sadiya, with such comforts as it afforded, but by no means careless about the dismal journey which was to bring us there. The pretty little valley of the Namlang soon closed, and where two equal streams, the Namseya and Phúngyún, meet, and form the first-named river, we entered once more into a ravine of the mountains, where the eye rests on nought but inhospitable jungles, or the foaming torrent. At the point of confluence, there is a bridge for the convenience, apparently, of the Míshmí* visitors, whose only route is by the Namseya. The bridge is a curiosity for its lightness and seeming instability. Its length is full eighty yards, and it is built of very few canes. The principal strength lies in the bunch of supporters above, on which are threaded the elliptical rings which sustain the road-way, but this is of two canes only, and there are two only on each side to hold by.

The Palanseng Gohain and his people, in the morning of the next day, informed us that we were actually upon the base of the Phúngan mountain, and here they left us, warning us that it was very uncertain whether we should find water that day, unless we could reach the snow. I followed the example of some others in filling the joint of a bamboo, and suspending it by a cane to my shoulders, and we provided for our dinner by wrapping up some ready-boiled rice in a plantain leaf. We plodded on up the steep ascent till we were heartily weary, resting but little, and guided in our exertion by our anxiety to reach the spot, where our guides had, on a former occasion, found a small pool—careless of the advance of our people whom we soon left far behind. In our turn we needed, and found encouragement from, the Singfos, whose hardiness enabled them to be always in the van, and who very little liked the idea of sleeping supperless. An apple was found on the ascent, of a delightful scent, but astringent to that degree that it was impossible to bite twice at it. We saw no other novelty. From eight till past three, we continued our toil, and rejoiced to find the pool—it was muddy and filthy, but no matter—it was not dry. But this, with a pot of rice, for which we were indebted to the Singfos, and which we knew how to discuss without the aid of spoons, were our only luxuries—fatigue taught

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* The Míshmí route from the Lathi on the Brahmaputra to Khalang.

us to forget that we had no beds. The elevation of our halting place was eight thousand six hundred and eighty-six feet above the sea.

Many of the people had not arrived when we started again in the morning. We soon left behind us both under-wood and forest trees—the only remaining plants were the rhododendron and a bushy ever-green, growing about eighteen inches high, which it was very laborious to push our way through: we mounted several peaks connected by ridges with the parent height, but from the commanding points, whence we ought to have had an extended view, we looked down on nought but masses of white mist and clouds. Mists also, driving like rain, almost always obscured the view of the snows above us. The first snow we passed was lying in small unconnected patches, but about two o'clock we came to the foot of a sheet which covered the whole apex of the mountain, and found that, since the naked-limbed guides and Singfos could not endure sinking up to the knee in it, we had to make a circuit to avoid the deepest bed. The very few trees towards the summit were junipers, but those upon the flat table, which forms the apex, were miserable things of four or five feet in height. According to report, from this elevated peak,* the view includes not only the valley of the Irrawaddy, with the plains of Húkúng and Múngkhúng at an immense distance, but also the Lama country to the N. E.; however, far from enjoying these beauties, we only saw the dense mist, which, driven along by a strong wind, wet us to the skin. The guides being deprived of a sight of surrounding objects, became doubtful of the way, and we were detained for an hour trying the descent on all sides, till they agreed that the direction we had first taken must be the right one, and in that we soon found ourselves moving rapidly down towards the South, in a ravine filled with snow, below the crust of which the roaring of the head of the Phúngan rivulet was loudly audible. At half-past four, we had cleared the great sheet and the snow remained only in patches; but our guides giving us no hopes of reaching a halting place having more advantages, we agreed to stay, where there was not a leaf but that of the fir, or rhododendron, to build our huts of—nor wood for fires but that which was sodden and wet. We had luckily a quilt each and a rug. The rugs we stretched to branches of the rhododendron, as some shelter

* The Barometer was set at three or four hundred feet below the summit; it gave the altitude above the sea 12,474 feet.

from the penetrating mists. The cold, and novelty of their situation, deprived our people of all energy, and with our best exertions of encouragement and threats, we with difficulty got a fire lighted. One of our good-natured and willing guides agreed in the morning to go back, lest the traces left should prove insufficient to direct those in the rear, who were yet more numerous than those arrived. One poor fellow was found to have passed the night alone on the very top—and for the remainder, the precautionary measure of sending back guides seemed to have been fortunate, for they were discovered wandering about the spot where our devious tracks showed that we ourselves had missed the road. At one o'clock there remained in the rear only four men, who were so much fatigued, that there was no chance of their conquering the mountain that day, or of their keeping up with us if they had; and, since the Lúri Gohain was behind us, having halted another day at Námbak, we considered that there was nothing to apprehend in leaving them to follow at their convenience. The whole day was excessively cold and unpleasant, the heavy mists and drifting rain continuing without intermission. We would have removed to better quarters, but were informed that no such were within some hours' march.

Leaving the Phúngan on the morrow, we mounted the wall on its right bank, and there, while descending the ridge which divides the waters of the Irrawaddy from those of the Brahmaputra, a transient clearness gave us a view of our old halting place on the Dapha, which we could not perceive without great delight. A short march brought us back into our old path at the crest of the Phúngan pass; it ought not to have been fatiguing, as it was generally on the descent, but it became so from the kind of jungle we had to make our way through, or over—for often the boughs of the rhododendron were so closely interwoven, that we stepped from one to another, four and five feet elevated above the ground.

The "diamond" of the Wangléo afforded us, as before, water for one meal; we reached it with difficulty in one day from the Dapha. Thence also to the Dihing, our anxiety to return to a place of rest made us perform the journey (mostly down hill) in one day; but the effects upon us of descending so rapidly from a region of cold to the scorching heats of the low country was so severely felt, that we passed a miserable night on the banks of the Dihing without sleep, and Lieutenant Burlton has preserved a note, that the pulse of one beat one hundred and forty-six,

and of the other one hundred and thirty-five, in the minute, while we were in that restless condition.

We crossed the Dapha, as before, by the suspension bridge, and there we were informed, to our great satisfaction, that the Bísa Gam had letters and a parcel for us. I mention this to introduce an intance of Singfo duplicity. At Kasam we halted an entire dry, to send a messenger to Bísa for our letters, and we rewarded him when, in the evening, he returned with the answer, that, at an appointed place on the Dihing, the Bísa Gam would attend in person to deliver them. There we stopped, and were disappointed; but we afterwards learned that our most worthy messenger had done what many fire-side travellers take the liberty of doing. He was contented with performing the journey while smoking a pipe in his own hut.

The river was pretty full, and the rapids consequently very boisterous; but after descending the first and worst of them, with the precaution of lowering our boats gently down the smoother side, we shot the rest with immense rapidity, and in one day and a half from Kasan we landed at Sadiya.

Of those who set out with us on the return, all arrived safe; and of those of Lieutenant Burlton's men who remained, one also found his way back with another party. I am not aware whether they have all returned to their own country.

APPENDIX.

No. I.—ROUTE FROM GOHATI TO MURSING GAON.—*See p.* 27.

1*st day.* From Darang to Chatgárí occupies two pahars, and the direction is nearly North.

2*nd.* To Kariyapar, direction North, two nullahs are crossed, and the road passes through much jungle : this is considered a full day's journey.

3*rd.* In a North-westerly direction to Gúmgaon, the road through jungles abounding with wild elephants.

4*th.* Amarathal, within the hills, is reached in two pahars with difficulty ; the road is through hills on the banks of a nullah, which is repeatedly to be crossed by a bridge of one plank. Amarathal is re-built every year. The violence of the rains destroys the houses, and renders the roads impassable, and the force of the mountain torrents sweeps away the bridges. Direction North.

5*th and* 6*th.* Bagahgaon is considered one day's journey, but it was found impossible to reach it on the fifth day, on account of the steepness of a mountain in the road. In this hill there is a cave, in which fifty or sixty men can find room, and here our travellers rested. The remaining part of the distance occupied but a short time the next day. The village is on a hill North of the road, but travellers rest in two or three houses situated below. They build here of stone, and roof with mats. They eat wheat flower, which is prepared by heating and mixing it with water, rice, either boiled or heated with a kind of oil which sells very dear, and kampa gondí, the seed of which, a little larger than that of the poppy, is yellow (the pod black) : this is made into a paste with water. Goat's flesh is eaten—but neither that of fowls, hogs, or bullocks. Direction North.

6*th and* 7*th.* Narígaon was also reached in two stages, though it might be made in one with great difficulty. The halting place is a cavern in the hill. Thus far the road is on the banks of a river, sometimes on the bed of it, sometimes on the hill's side: at Narígaon it is left to the South. The village is on a high hill; the direction, during the first day, is North, and, on the second, North-east.

8*th and* 9*th.* Thence in a North-easterly direction, to the bend of the nullah above mentioned, the road passes between two mountains, and the dangers and difficulties are many ; it is scarely three feet wide, and is ankle deep in mud in many places ; it is made with wood. The stage is not a long one ; but owing to the bad state of the road, it is not possible to advance more than two or three kos a day.

The direction, on the second day, is first East, and then due North to Múrsinggaon, which is situated on the North bank of the Bhúrulí River. Many villages are seen to the South ; their food is the same here as above stated, but the rice they use, being brought from Assam, is very dear : there is very little cultivation.

10*th*. Hence two kos, a little North of East, is Dúmkúgaon, on a nullah ; and two kos again beyond that, the Deb Raja was found encamped in a garden on the water's edge. Here and there snow was seen on the mountain, and water flowing from it.

Tawang is three days' journey from the Deb's encampment, and respectable Tawang people said that Súnea-hath is three days farther ; thence there are two roads, one towards Nepal, the other North to L'hassa, under the Kulito Rajah, which is fifteen days' journey. From L'hassa, in fifteen days, a province of China is reached, either by water or by a land route. The boats used are of leather, on account of the number of rocks met with. At the end of a stage the leather boat is hauled up and dried. By land, it is requisite to carry provisions for the fifteen days, as the hills are not inhabited. There are on the road elephants, rhinoceroses, tigers, and many other animals.

Tawang is said to be in the upper part of the Bonash.

No. II.—BOGA DAMRA'S ACCOUNT OF THE FLOOD OF THE DIHONG.—*p.* 28.

" In 1657 (A. D. 1735) two rivers flowed into our country. There were formerly two Cachárí villages at the mouth of the Senglaí River, near the Dihong Dipang. Belonging to these villages were two bils (lakes,) the names of which were Diha Darúa and Dibangiya : the Senga Senglaí flowing from the Duriya Gohain's country into these two bils, takes the name of Dihong Dipang. The Senglaí River flowing from the Kulita country joins the Dibong. Boats cannot navigate the Dihong to the mouth of the Senglaí on account of the numerous rocks, but by going forty days up the stream of the Dibong, it may be reached, and thence to Kulita is twelve days' journey. The Senglaí is not navigable.

From Sadiya to Kulita is a journey of forty-two days and six hours ; in the middle of the way the route lies through hills, where the dense jungles make it very difficult to proceed.

From the Abors, a distance of nine days, are the Bibors ; from the Bibors, a distance of three days, are the Jiobars. From the Jiobars, distant seven days, are the Barkanas—in the whole, the distance occupies, as above, forty-two and a half days to Kulita, which is three days' journey beyond the Barkanas. There are, on the whole, twenty-four hills and eleven large torrents, besides innumerable small ones; but the passage by the hills is impracticable on account of the hostile disposition of the Barkanas :* the products of Kulita are elephants' teeth, " búrísar," copper

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* Barkanas, large-eared—the Assamese are as confident of the existence of this tribe as of that of the fabulous Sri Lohit and its three branches, (Brahmaputra, Dihong, and Irrawaddy.) Those who are not remarkably credulous, represent the ear as merely hanging down to the waist, while others are positively informed, that at night the left ear serves as an ample bed to sleep on, with sufficient to spare to wrap the body up in.—*Lieut. W.*

It is curious that this notion should be still in existence, being now as old as the days of Megasthenes ; it proves also, that he did not invent the fiction, but honestly repeated what he had heard in India. *H. H. W.*

vessels, bor bis and sengúmúrí bis, (two kinds of poison), "Gathiyan," silk, musk and chowree tails.

North-westard from Kulita, distant nine days' journey, is the country of the Kibong Gohain. The Duriya country is distant from Kibong five days' journey. The Dihong Dipang flows from betwixt the countries of Kibong and Duriya."

No. III.—NOTE on M. KLAPROTH'S THEORY of the COURSE of the SANPO.

Since my labours have not terminated so successfully as to furnish absolute proof of the identity or non-identity of the Sampo and Brahmaputra,* I might leave it to others to form their own opinion upon the data furnished them in the foregoing part of my Memoir; for I do not suppose that many will incline to follow M. Klaproth, in claiming infallibility for the Chinese authorities quoted by him. However, while stating the few facts which I have yet to mention, I shall embrace the opportunity of pointing out, at the same time, what circumstances have materially contributed to strengthen M. Klaproth's arguments; and on the other hand, I shall endeavor to collect the evidence, (in my opinion very strong,) which, at all events, deserves to be weighed against the assertions of the Chinese geographers.

With respect to the weight to be attached to their opinions, M. Klaproth himself says, "ceux d'entre eux qui ecrivent sur la géographie donnent constamment des détails si minutieux qu' on ne peut donter qu' ils ne connoissent pas le plus grand fleuve de leur empire." But since his Memoire† cannot be had access to by many, it appears in every way advantageous to extract from it here the quotations by which he supports his arguments. He says:—"voici un extrait de la grande géographie imperiale de la Chine qai fera voir qui le cours inférior du Yarou-dzang-botchou du Tubet, ou de l' Iraouaddy de l'Ava étoit depuis long-temps connu des Chinois, et qu'ils l'appelloient Tā-kin-chakiang. La géographie de la dynastie des Thang l'exprime ainsí:"—il porte aussi le nom de Tsang (ou Dzang): les habïtans du pays du Tian (le Yunnan) l'appellent Ta-kin-cha-kiang. Il vient de la partie la plus occidentale du Tubet. Selon la géographie du Yunnan, le grand Kin-cha-kiang vient du Tubet, entre dans le pays de Miantian on Ava, á cinq li de largeur et va se jeter dans la mer. Houang-tchu-yuou, ancien anteur Chinois dit.‡ "———On dit que les sources du grand Kin-cha-kiang ne sont pas tres eloignées du pays de Ta-wan (La Bactriane). Depuis les monts Lima et Tchha-chan jusquà l' extrême frontierè septentrionale de Meng-yang (dans le Yunnan),§ ou ne connoît pas bïen son cours: il passe par le pays d'une tribu des sauvages nommés les Cheveux roux (Tchhy-fa); ses bords y sont si escarpés qu' on ne peut pas y grimper. La grande géographie

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* The name Lohita might perhaps be substituted with advantage when referring to the "Brahmaputra of Geographers," since it does not appear that it is properly applied to the Sacred or Eastern Stream.

† "Sur les Sources du Brahmaputra et de Iraoaddy."

‡ I extract what relates to this river only.

§ A note is given by M. Klaproth (1) and it does not appear whether ("dans le Yunnan") is his addition or not "(1) Ce pays étoit situé en dehors de la frontière la plus occidentale au Yunan actuale.

de la Chine, qui cite ce passage, ajonte: Parmi les rivières qui passent par la partie du pays des Meng-yang (I) hérisseé de montagnes et presque inaccessibles, il y en a deux très-grandes qui viennent du nord-ouest, l'une s'appelle Ta-kin-kiang on Ta-khin-kiang, et l'autre Pin-lang-kiang. Elles se réunissent, et portent aussi le nom de Ta-i-kiang: de nos jours les habitans du district de Theng-yue donnent généralement à toutes les grandes rivières le nom de Ta-i-kiang. Les gens du pays appellent ce fleuve Kin-cha-kiang (à sable d'or). On trouve dans son lit le Yu ou jade oriental, de couleur verte, de l'or en grains et en paillettes, la pierre précieuse appeleē tsing-chy, du noir, du cristal de roche et quelque fois aussis du Yu blanc. Aux pieds des montagnes qu' il traverse on recueille aussi de l'ambre jaune. Les habitans du Tian (Yun-nan) appellent ce fleuve Ta (grand) Kin-cha-kiang; le Siao (petit) Kin-cha-kiang, an contraire, est celui qui passe à Li-Kiang, &c. En sortant du pays de Men-yang, ce fleuve coule au sud, passe devant Houang-meng, Ma-than, Mo-tsy et Meng-tchung, ou il recoit une rivière qui vient de l'ouest: il baigne Pho-pha, Tsimeng et Momang, villes anciennes, coupe la frontière (de ce temps), et va à Man mo.—Il n'y a aucun doute que ce fleuve ne soit le Yarou-dzang bou du Tubet ajontent les éditeurs de la grande géographie impériale."

The quotation from Houang-tchin-yuan ancien auteur Chinois is an on dit,—but what does it assert more than that between two distant points, one situated in Thibet, the other on the borders of Yunnan—the course of certain rivers is unknown. The *onus probandi* still lies with Houng-tchin-yuan, to show that the river lost sight of in Thibet, is found again near Yunnan.*

La Geographie de Yunnan cited proves no more, nor does the first quotation, as they seem all to rest upon the same grounds, and I need scarcely remark that the addition of the Editéurs de la Grande Geographie, 'Il n'ya aucun donte,' induces a very great deal of doubt, as it appears that they draw their conclusion from the scanty evidence they place before us. The account, however, of the Ta-kin and Pin-lang is of a very different stamp, and in it we recognise an accurate description of the Irrawaddy, as it really exists. To this day, there is a considerable trade carried on by the Chinese of Yunnan, chiefly for the sake of the articles enumerated above, as found in these rivers. The amber mines of the Kaynduayn have been long famed for the quantities of amber produced. The green stone (yu) is found in most of the branches of the Irrawaddy—(I brought a specimen from Manché, which was found in the Phúngan)—and the Urú produces a stone, the nature of which we could not exactly ascertain from the Shams, for which the Chinese pay a large price.† It is to be remarked, that hitherto it has not been asserted that the river of Thibet enters

* The Chinese geographers seem to have been in precisely the same predicament with ourselves in respect to this river. They lose sight of the Sampo, so do we; they find a large river near their own borders, we find a larger; and we each declare that we have found that which was lost. The case is very similar also to the dispute between Mr. McQueen and the *Quarterly Review*, on the question of the Niger. One finds a proper and reasonable outlet for it, which would give it an allowable length of course; the others are not (or were not) so easily satisfied, but conveyed their river circuitously about, contrary to all reason.

† One species of stone they require to be sawn in two, when they immediately decide to reject it as worthless, or to pay a large sum for it.

Yunnan; but to prove this, M. Klaproth cites "une ordonnance de Khang-hi," published in 1721. I give the extract relating to this river at large.

"Il y a encore une autre rivière qui passe par l'extreme frontière du Yun-nan, c'est le Pin-lang-kiang (fleuve de l'Aree). Sa source est dans le Nyari province du Tubet, à l'est du mont Gangdis sur le mont Dumdjouk-kabal, c'est à dire bouche de cheval. Ce fleuve recoit plus bas le nom de Yarou-dzangbo; il coule généralement vers l'est, en déviant un peu au sud; passe par le pays de Dzangghe et la ville de Jïkar gounggar; recoit le Guldjao-mouren; plus loin, se dirige au sud, traverse une contrée habitée par des hordes non soumises, et entre dans le Yunnan, près de l'ancienne ville de Young-tcheou; il y porte le non de Pin-lang-kiang. Il quitte cette province au fort de Thie-py-kouan et entre dans le royaume de Mian-tian."

I have already mentioned that this *ordonnance* was published in 1721; however, the Jesuits were employed in Yunan, in constructing their map of the province, in 1714 and 1715, and they have neither introduced the Sampo into Yunan, nor had their inquiries elicited any satisfactory information concerning its course after leaving Thibet. P. Regis himself says, (he probably wrote after the year 1721,)* "Mais, ou va se decharger le grande fienve Tsanpou? C'est sur quoi on n'a riea de certain. Il est vraisemblable qu'il coule vers le golphe de Bangale car du moins on scait surement, que des limites du Thibet il va Sud—oüest à la mer, et que par consequent il coule vers Aracan, ou pres de l'embouchure du Gange dans le Mogul."

That the Jesuits visited the extreme frontier, we have evidence in their table of observed latitudes, in which we find Laughan-kouan, which is in the extreme S. W., "Lat. 23° 41′ 40″," "Long. 18° 32′ 00″," (West of Pekin). San-ta-fou is not included in this table; but we may infer, from their informing us that its position is the result of several triangles, that they were within sight of it, if not at the place; still, however, between San-ta-fou and Teng-ye-chew, distant from each other about forty-two miles only, and of which the position of the last was observed (both latitude and longitude†), does M. Klaproth venture to introduce this immense stream, which, in the words of le P. Gaubil, is "beaucoup plus considerable que le Houang-ho et le grand Kiang"—"C'est la plus grande rivière que les Chinois connoissent."

It is the more unfavourable to M. Klaproth's theory and argument, that he has adopted the Banmo River as the channel for the Pin-lang-kiang, for we have such easily accessible proof that it is but a rivulet. Perhaps M. Klaproth had not seen Dr. Hamilton's interesting accounts of the maps procured by him at Amerapura: he would have observed‡ that the (Burmans) Mranmas distinguish the Banmo River as a Khiaun, or small river, in contradiction to Myeet, which is their term for a large one. The Chinese word Aho (which is applied by them to the Banmo rivulet) has the same signification, according to Dr. Hamilton.§ I have long been aware, from the accounts of Mranmas. Shams, and also of the Chinese from

* Description de l'Empire de la Chine, p. 585.

† They therefore remained at Teng-ye-chew some time.

‡ "Account of a Map of the Route between Tartary and Amarapura."—*Edinburgh Phil. Journal*, p. 35.

§ Ditto, page 36.

Yunnan, mentioned in page 46 of this Memoir, that the Banmo River is one of very small size. But I can venture to assert roundly what is more to the purpose. I rest upon the same authorities, and I have examined, at various times, at least a dozen men of the nations mentioned, besides Singfos, who are in the habit of visiting the Western part of Yunnan; that below the mouth of the Múngkhúng River, which I place in latitude 24° 52′, the Irawaddy* does not either enter or proceed from Yunnan. Though perfectly satisfied on this point from having been so long and so often engaged in the inquiry, I have recently questioned a Burman attendant, who has been with me since the capture of Rangpur, and who came from Amerapura, his native city, by the route of the Irrawaddy, striking off where the Mogaun, or Múngkhúng rivulet joins the great river. This man,† in answer to my simple question as to the size of the Banmo river, immediately replied—as large as the Dikho, (the little stream running past Ghergong, and Rangpur in Assam.) and he positively denies that any river joins the Irrawaddy, as far up as he has seen it.

"I was assured by the Officer who gave me the account of the Map here published, and who, as belonging to Panmo, on the frontier of China, must have been perfectly well informed, that the Irrawady‡ or Kiạng-nga never enters the province of Yunnan, but keeps far to the West of it, the whole principality of Panmo being interposed." (Hamilton, p. 36 of his Account.)

In answer to this, M. Klaproth could not again remind us that though this may be true of the Irrawaddy of the Mranmas, it may not be so of the "Irrawaddy of Geographers;" he would be well aware that the latter was understood and intended by Dr. Hamilton, who perfectly well recollected the story of the four Chinese of the Universal History. I do not think it worth while to enter on a discussion of their travels.§ Hamilton has said enough on the subject; but indeed it appears to me that citing such authority, or the "renseignemens authentiques" of our great Geographer Rennell, is wilfully recurring for information to a period when much of what is now perfectly understood was the subject of mere conjecture.

I was assured by a party of Shams from Yunnan, that there is no river to compare with the Sadiya Brahmaputra, within thirteen days' journey of Banmo. The river alluded to by them at that distance appears to be the Lan-tsan, or Kianlong-kiang. The Nou-kiang is, as we are told by Hamilton, much inferior to the Irrawaddy at Banmo, which is described to me as larger than the Sadiya Brahmaputra, but inferior to the great united stream of the Lohit.

If it were incumbent on me to mention every statement with which M. Klaproth has thought to strengthen his arguments, I should have to quote P. Gaubil's (mere) opinion, that M. D'Anville was right in placing Ava on the great Yarou Ssanpou—(he does not say a word about its entering Yunnan)—and the evidence of the maps

* The Irrawaddy of geographers—*i. e.*, the principal stream.

† He has often shown considerable intelligence in geographical matters.

‡ It must not be forgotten, that while Dr. Hamilton was pursuing these inquiries at Amerapura, there were there some Chinese Ambassadors from Yunnan, who also gave him information.

§ They might have embarked on the Banmo River.

published during the reign of Khian-long, on which it is written in Manchou* characters, opposite to where the Dzangbo-tchou or Yarou Dzang-bou-tchon leaves Thibet, that this river passes through the country of Lokabadja (or H'Lokba), and enters Yunnan ; but, as I have proved satisfactorily, I hope, that so important an error has been committed on this point, surely that whole mass of evidence will no longer be thought trustworthy.

However in justice to M. Klaproth, I must draw attention to the large Eastern branch of the Irrawaddy, called in my map by its Singfo name, Shúmaí-kha†—I ask had M. Klaproth been aware of the existence of this considerable river, should we ever have heard of the Pin-lang-kiang in Yunnan? or seen the petty Banmo rivulet magnified into a mighty stream? I think not; and those who inspect my map will agree with me. With regard to the origin of the Shúmaí-kha, I have no positive statements to offer; the Singfos are generally of opinion that it is something larger than the Western branch, though not materially, and it seems not at all improbable that it is the river mentioned by the old man who was captive amongst the Lamas, as rising in the snowy mountains of the Khana Deba's country, and flowing to the South near where he saw the source of the Eastern branch of the Dihong turning to the N.W.‡

If the opinion of Mandchous and Chinese be deserving of confidence, is not that of the Thibetans resident upon the Sanpo equally so?

A party of Bhotiya and L'hassa merchants, one of whom had travelled from Lassa to Pekin, assured Mr. Scott at Darang, in Assam, (in 1826), that the Brahmaputra, on the banks of which they then stood, is the Tsanpo, or large river of Thibet. From Nipal, we understand, that the Thibetans always assert the same thing, and, referring to Turner for the opinions he derived from them at Teshoo Lomboo, we find a degree of accuracy in their idea of the river, which was not to be expected.

"It passes Lassa, and penetrates the frontier mountains that divide Thibet from Assam. In this latter region it receives a copious supply from the sacred fountains of the Brahmakoond,§ before it rushes to the notice of Europeans below Rungamutty."

The evidence derived indirectly from the Thibetans at the sources of the Brahmaputra has already been recorded, p. 410 of this Memoir, and this, as I have there observed, deserves consideration more particularly, since those people must be perfectly aware, whether or not they are divided from the rest of Thibet by a large river. However, they not only deny the existence of such river, but inform us positively that the L'hassa River is the same as the Dihong.

I shall proceed to examine how far M. Klaproth derives advantage by supporting his view with arguments from Physical Geography.

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* These maps have led M. Klaproth into an error, acknowledged by himself—for he corrects it in his second map. It is written similarly in Mandchou, opposite the "moun-tchou," that it unites with the Yaron Dzangbo in Lokabadja. M. Klaproth now considers it to be our Dihong.

† The Lùphaì Singfos ; it is also called Sinmaì-kha.

‡ *Vide* p. 411 of this Memoir.

§ We had not at that time any notice of the Kund.

He concludes that the great periodical rise of the Irrawaddy, and its rapidity of current, can only be accounted for by assigning it a distant source in the snows of Thibet.*

I shall show, on the other hand, that analogy furnishes us with the conclusion, that within the limits prescribed by my researches to the sources of the Irrawaddy there is sufficient space for the formation of a river of great magnitude, and the question will then appear to hinge upon this point—What is the magnitude of this river compared with others?†

We have certainly been told that, in the rainy season, it would be impossible to make way against its impetuous current, were it not for the strong Southerly breezes which then prevail; but to those who are acquainted with the Ganges and Brahmaputra,‡ this is saying no more than that it resembles those rivers in the periodical difficulties of its navigation; and when we further recollect that the Irrawaddy is, in one place, contracted in breadth by its high banks to four hundred yards§ (of which we have no similar instance in the others ‖) we cannot consent to allow that the difficulty of stemming its current is a convincing argument of its superior importance.

"During the dry months of January, February, March, and April, the waters of the Irrawaddy subside into a stream that is barely navigable: frequent shoals and banks of sand retard boats of burthen."¶ "I see here," says Dr. Buchanan in his Journal, "some boats poled along in the very middle of the river, where there does not appear to be more than six or eight feet water: it is deeper, however, towards the steep bank." Dr. Hamilton** says of it generally, that it is equal to the Ganges or Brahmaputra, and I am not aware that any one has rated it higher, but Officers, whom I

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* He refers us to "Two years in Ava," p. 233. The author of that clever little work hazards the opinion, that the sudden "risings of the river are attributable to the melting of the snow, in the mountains of Thibet; for although the Irrawaddy derives a vast supply of water from the numerous streams which flow from the Yomadoung and other mountains, yet it is impossible they could be so rapidly swollen by the rain as to create this sudden increase of water." Surely a sudden increase is more likely to proceed from rain than from the gradual melting of snow. This author further informs us, that the periodical risings are generally three in number in one season, and that the last is the forerunner of the river's ebbing to its lowest state. Buchanan says, that it began to fall on the 17th September. Then the last sudden rise occurs at a period when we know that the snows suffer very little further diminution. After the rapid thaws of May and June, there remains no great portion of the mass of snow which is situated within reach of the suns's influence.

† It is to be regretted that those who had the opportunity did not give us a section of the Irrawaddy, and the velocity of its current.

‡ The latter particularly.

§ Two years in Ava.

‖ Immediately below Gohati, hills confine the Brahmaputra to the breadth of one thousand two hundred yards, the narrowest in its course through Assam; there, in the rainy season, boats are necessitated to be moored till a Westerly breeze springs up of force sufficient to carry them through the narrow strait; but there is often great difficulty even where the river flows in an open bed. When coming down the river in the latter end of October 1825, I saw a fleet of commissariat boats (at that time very much required with their supplies for the army) which had been twenty-five days between Goalpara and Naghurbera hill, a distance of thirty miles, and there was no remarkable wind to impede their progress.

¶ Symes' Embassy, p. 24, ed. of 1800.

** Vol. 3, Edinburgh Philosophical Journal, p. 37.

have questioned on the subject, who had sufficient opportunity of forming a judgment during their long sojourn on its banks, in the course of the late war, compare the Irrawaddy, above its junction with the Kenduayn to the Ganges opposite Futtehghur, and consider it generally as very inferior to the Ganges, where having received its vast supplies from the Goggsa and the Soan, it spreads its great breadth over the plains like some great inland sea.*

But I am not anxious to deny high rank to the Irrawaddy. I am only jealous of its taking precedence, without authority, of its noble compeers.

I may assume, I believe, that the magnitude† of the rivers of similar countries bears always some proportion to the space‡ drained, so that knowing the extent of country, an estimate might always be formed of the comparative magnitude of its rivers: provided, however, that the similarity of the districts compared extend to the climate as well as other physical features.

For comparison with the district drained by the Irrawaddy, particularly on the upper part of its course, no country could be more happily selected than Assam, similar to it, as far as we are informed, in every particular. The elevation not materially differing, the rains commencing at the same season and equally abundant, the same large proportion of hill tract to plain country, and high mountain ranges, supplying in each the distant sources of their larger streams.

Assam, with its bordering districts, including from the meridian 90° 30′ of longitude on the West, to the heads of the sacred Brahmaputra on the East, and from the crest of the Himalaya ranges,‡ (which generally deviate between the 28° and 29° parallels of latitude,) on the North to the line, (which can be traced without the hazard of much error,) separating on the South the sources of the rivers contributing to the Brahmaputra within these limits, from those flowing in the opposite direction, is an extent of about 15°3 square degrees.

The Irrawaddy, according to my map, drains up to the City of Amerapura, 13·9 square degrees, excluding, of course in this estimation, the whole tract whence the Kaynduayn draws its supplies.

Then, were the Sanpo supposed to contribute to neither of these rivers, it would be fair to compare the Brahmaputra, at Goalpara, with the Irrawaddy at Amerapura—but who will venture to do this? Add, in imagination, the Sanpo to the

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* This evidence would carry greater weight were I at liberty to name my authority. I would not rest much, however, on what must necessarily be so vague as any person's opinion of the comparative magnitude of rivers when formed without sufficient data.

† Limiting the sense of *magnitude to the more legitimate one as applied to rivers.*

‡ It does not appear of much importance whether the extent drained be considered, or the actual lengths of the courses of the rivers, as it will be found that these bear a near proportion to each other; for instance, the Ganges, down to Allahabad, drains 7·9 square degrees; the Jumna to the same point drains 27·1 square degrees; the proportion is 1 to 3·43. The sum of the lengths of the rivers forming the Ganges to Allahabad is two thousand three hundred and fifty miles, and of the Jumna, ten thousand and seventy, which give the proportion 1 to 4·28. It is not pretended that these measures are accurate. They were made on Cary's large map, and another on a larger scale, would exhibit more water-courses. For the number of rivers introduced in a map, much must depend on the mode of survey, whether detailed or not; in this, probably, the central districts watered by the contributors to the Jumna have the advantage.

‡ Thibet and the Sanpo altogether excluded.

Irrawaddy, and, then by how large a quantity* ought the Irrawaddy at Amerapura, to exceed the Brahmaputra at Goalpara—but who of these who have seen the two rivers, shall we find willing to grant the possibility of such excess, or who will not indeed assert the reverse as the fact?

We can easily estimate the quantity of water drawn by the Brahmaputra from the tract within the limits mentioned, since we know the entire discharge at Goalpara, and also the discharge of the Dihong, the Dibong, and the Brahmaputra, separately in the neighbourhood of Sadiya.

In January 1828, the quantity of water discharged by the Brahmaputra at Goalpara, including the Bonash, was, per second, ...Cubic feet 1,46,188†

Captain Bedford gives the discharge of the Dihong, at the same season of the year, fifty-six thousand five hundred and sixty-four feet, but the small rivulet, called the Lalí, is here included, say 56,000

Remain, ... Cubic feet, 90,188

Here then is proof, in an instance of the fact, that in a country (and climate) similar to Assam,‡ of the extent of 15·3 square degrees, a river of such importance as one discharging, when at the lowest ebb, ninety thousand cubic feet per second may have its origin.

Rennell has stated the entire discharge of the Ganges, in the dry season, at eighty thousand cubic feet; but he has perhaps over-rated it since the quantity of water flowing past the City of Benares in April last, was found to be no more than sixteen thousand§ or seventeen thousand feet per second.

But the whole extent drained by the Irrawaddy, including its several contributors down to the head of the Delta, or to the point where it remains an undivided stream, is thirty-three square degrees: it follows that, without claiming a larger space for the origin of the Irrawaddy than what appears due to it from the result of my researches, the probability is in favor of its discharging in the vicinity of Prome, in the dry season, upwards of one lack and eighty thousand cubic feet per second, or that it is there larger by one-fourth than the Brahmaputra at Goalpara.

I regret that I want data for continuing the comparison through the rainy season. The only fact that I can state, connected with a rise in the Brahmaputra, is, that on the 2nd May 1825, when a considerable extent of its sands yet remained uncovered, it discharged three lacks and seventy-five thousand cubic feet per second, above the mouth of the Dikho River, to which must be added (say) forty thousand feet, for the Borí Lohit, which separates from the main stream a few miles up the river.

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* The quantity to be added is not so great as might without consideration be anticipated. It must be recollected how small a quantity of rain falls in the elevated region of Thibet. We are informed that in parts of that country, neither rain nor snow are known to fall, and that some mountains, of the great elevation of thirteen thousand feet (seventeen thousand?) are never covered with snow.

† An account has been given of the manner of taking this Section, and of computing the discharge.

‡ And the contiguous territories.

§ For this information, I am indebted to the kindness of J. Prinsep, Esq.

The objection has been made that the Sanpo, where it is lost in Thibet, is necessarily a very large river, and on the other hand, that the Dihong, where I last saw it within the mountains, is too small to be the channel of such a stream. The first part of this objection has been answered in a foregoing note, but much more might be adduced to prove that a river having its rise in and flowing through that arid and elevated tract, must be very inferior in comparison with one draining a country with a moist climate; but, indeed, the Sanpo, up to the ninety-seventh degree of longitude, drains a smaller space than the Ganges to Benares, the former being 33·8 degrees* and the latter 37·0 degrees, yet it is considerably larger. The second objection has also been met in a note to a former part of this paper. True, the Dihong was but one hundred yards† wide, yet the steep slope of the mountain's sides induced an impression that the bed must possess immense depth; but pursue the question to calculation, and all appearance of difficulty vanishes. Suppose the discharge still fifty thousand feet per second, and the mean velocity of the current at that spot three miles per hour, the mean depth required to give that discharge is but thirty-seven feet—the mean depth in the dry season at Goalpara, where the breadth is twelve hundred yards, is twenty-one feet, and the depth of the principal channel there thirty-three feet. And supposing the discharge the same, and the velocity no more than two miles an hour, the mean depth required is but fifty-five feet: also, I conceive, far within the bounds of possibility.

It must not be forgotten, that to connect the Sanpo with the Irrawaddy, according to M. Klaproth's view, not less than four hundred and fifty miles (by the most direct possible route) must be added to the course of the Sanpo, over and above what is necessary to connect it with the Dihong. This is not his only difficulty: in addition to those I have already stated, his second map still requires considerable alterations in longitude to bring in my surveys, cramping still more the crowded streams, which, with most unnatural parallelism, crawl in nearer contiguity than is known in any other part of the world, through his map, between the sources of the Brahmaputra and China.

Notice has already been taken, in an excellent article‡ on the subject, in the *Oriental Quarterly Magazine*, that M. Klaproth was entirely mistaken in supposing that Turner did not take any astronomical observations for the position of Shigatze or Teshu Lombu, and of the consequent error which he has probably committed in altering the latitude of Lassa one degree.§ The whole of the lower part of the

* Including from the highest ridge of the Himalaya to the thirty-first degree of latitude, sometimes a little more. M. Klaproth's map would give it less space.

† The breadth is said to be greater further within the hills. I have seen a cane bridge, of eighty yards length, over the Brahmaputra. The Abors declare that the Dihong is always too wide to admit of a bridge being thrown over.

‡ Memoir on the Course of the Great River of Thibet.

§ The Lamas who were sent to survey Thibet were mathematicians, instructed for the purpose. It is hardly possible that they can have erred one degree of latitude in their survey of the short distance between Lassa and Teshu Lombu, (about one hundred and fifty miles), and their position of the latter agrees closely with that given by Turner, from observation. I would not contend for their extreme accuracy, or even for an approximation to accuracy, excepting in the position of places actually in their route. They seem to have possessed very little judgment.

Sanpo, from Lassa Eastward, suffers a similar alteration in his map, which has given room (in space) for the formation of a considerable river, called by M. Klaproth Mon Chu, evidently the Om Chu of Rennell, and our Subanshiri, though M. Klaproth now considers it to be our Dihong. This river has not, however, so much as six square degrees allotted to it; but if the course of the Sanpo be restored to its former parallel of latitude, and the Subanshiri introduced—no insignificant river, since it discharges, in the dry season, sixteen thousand feet per second—the space for the growth of the Dihong will be, in M. Klaproth's map, most sadly curtailed—reduced, indeed, to nothing.

I think that I have hinted at the probable cause of all the discussion which we have had on this subject in the early part of this Memoir. The Brahmaputra was described to us as a diminished stream, "little more than a hill torrent," and it "seemed very improbable that such a small body of water could run the distance it is represented or supposed to do." The Dihong, in which alone we could look for a continuation of the Sanpo,* was totally lost sight of,† and long remained forgotten. Time was given to originate theories,‡ and to search for geographical anecdotes amongst antiquated Chinese documents, and the delay which occurred in furnishing information from hence (from the spot) allowed conjecture to grow into certainty.

* This would have appeared from the first, had Lieutenant Burlton's account of the discharge of the river been published.

† It was never adverted to as a river of great importance, till a letter of mine to the Editor appeared in the *Government Gazette*, about January 1826.

‡ Captain McLachlan's "Theory" appeared in the *Edinburgh Philosophical Journal*.

Correspondence

AND

JOURNAL OF CAPT. DALTON,

PRINCIPAL ASSISTANT AT LUCKIMPORE,

OF HIS

PROGRESS IN A LATE VISIT TO A CLAN OF ABORS ON THE DIHING RIVER.

EXTRACT from a Letter from MAJOR H. VETCH, *Political Agent, Upper Assam, No.* 1½, *dated 3rd January* 1848.

9th.—My next object was to endeavour to establish a more friendly intercourse with the numerous Abor tribes who inhabit the hills between the Dihong and Dibong Rivers, as well as with those tribes to the immediate West of the first of these rivers.

10th.—Of these, the Abors, who inhabit the nearest range of hills, are either tribes who have come from the interior as conquerors or colonists, who, as they progressed southward, forced forward those tribes whose hills they now occupy; and from these and the Abor colonists are descended those numerous tribes of Meerees whose villages are scattered over a great part of Upper and some parts of Lower Assam; but at the time of the conquest of Assam, by the British Government, these Meerees were chiefly located on the low lands between the foot of the Abor Hills, from the Dibong East to the Jooni* West, and were rather the slaves and dependents of the Abors than the subjects of the Assam Government, whose lands they occupied. Mixed with these, and also occupying the islands formed by the main stream of the Brahmaputra and Booreesootee, as well as the low lands West of the Jooni, once resided numerous tribes of gold-washers subject to the Assam Government, but who from their vicinity to the Abors, as well as their vocation of gold-washing (requiring that they should ascend the hill-stream where gold-dust is more abundant) were, from fear as well as interest, compelled to cultivate their friendship; and if they paid no fixed black-mail they courted their favor by occasional gifts and hospitality.

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* The Jooni is a small hill-stream which falls into the northern branch of the Brahmaputra, called the Booreesootee, but neither of which is to be found in the maps of Assam.

11*th*.—The latterly weak Government of Assam also found its interest in keeping on friendly terms with so warlike a people as the Abors, who were sometimes called in as auxiliaries, and who had the command of some of the best streams for gold-washing, once (comparatively) a considerable source of revenue; and in the reign of Roodro Singa Golah, a small factory was established in Rungdoe Choppree for the purpose of barter with them, but this was discontinued during the troubles in the reign of Gowreenath Sing.

12*th*.—The consequence was, that the Cheerees and Beahs were constrained to remain in fixed locations, subject to the exactions of the Abors, until the British rule removed the restraint, when numbers of Meerees at once removed to new locations beyond the reach of their Abor masters, and out of thousands, but a few families are all that remain of these Meerees within the limits above described, while the gold-washers have also withdrawn and settled elsewhere, although parties of them still resort to these rivers for gold-dust.

13*th*.—Urgent applications have been, from time to time, made by the Abors to have the Meerees sent back to their own locations, but with every desire to conciliate the Abors of that part of the frontier who, notwithstanding the great loss they have (or believe they have) suffered from these desertions, have yet conducted themselves more peaceably than any of the other hill-people on our frontier: it was a request which could not, on any account, be complied with as a compulsory measure, and it had hitherto proved a stumbling-block to all attempts to revive the establishment of a mart for barter with them, as they always insisted on the restoration of the Meerees as a preliminary. Finding this to be the case, I considered it best to allow time to reconcile them to altered circumstances, and as the hopes of having the Meerees restored have almost died away, they have shown symptoms of an inclination to make advances on their side. Last January a party of them came to Debrooghur on a visit to me to renew their old suit, to have the country below their passes re-peopled. I again explained to them that it was quite contrary to our customs to compel our ryots to locate in any particular spot, but at the same time those who wished to settle there might do so on application to me; and further, there was no objection to the Abors paying friendly visits to these Meerees in any part of the province. With this they seemed so far pleased, that I referred to the subject of the re-establishment of traffic with them, when they expressed a desire

to have a Golah established for that purpose. I said, I should send some of my people back with them to hear what the others had to say on the subject, if they would insure their being well treated. To this they eagerly assented, and I despatched Rungmun Hazaree, formerly head of the Beah tribe of gold-washers, and some others who were acquainted with the Abors and their customs. The result was a general meeting of the heads of clans, and an application that a Golah for barter might be again established; and that they would be glad to come and meet me on the bank of the Dihong further to discuss this subject.

14*th*.—On my way up to Suddyah, in November, I took with me Rungmun Hazaree, intending to send him to give notice to the Abors that I would meet them; but when I arrived near the mouth of the Dihong, I heard that some Cacharees, who had gone up to wash for gold in the sand of the river, had been carried into the hills by the Bor Meyong Abors who live to the West of the Dihong. I immediately despatched him to obtain their release, and, if successful, he was to go on with my message to the Abors East of the river. This he did, and rejoined me at Saikwah, reporting that the gold-washers had been dismissed, and induced by the Meyongs not to make any complaint to me, and that the other Abors had treated him well, and requested I would fix when I would meet them. Having done this, I gave notice to the traders who wished to accompany me to take with them salt and such articles as were likely to find a market.

15*th*.—In order to make a good impression on the Abors, I invited Major Hannay, who was at Saikwah, and other Officers of his Corps to accompany me; and to show that our intentions were entirely peaceable and that we were without distrust, we were accompanied by our families. It was not without some difficulty, and after encountering three rapids, we reached the place appointed for the meeting, about six miles from the mouth of the Dihong, (so soon does this mighty river assume the character of the mountain stream in all but its immensity.) Beyond this point we found it impossible to take our light bauleahs of not more than six or ten tons burthen. Here I received a visit from the heads of the villages of Dookoo, Menhoo, Salee, Salook, and Pado, attended by about 150 followers: the heads of some of the more distant villages were unable to attend, alleging that cholera had broken out among them, while others were in apprehension of an attack from the Meeshmees, with whom they were at feud; the assembly was in consequence less numerous than I expected.

16*th.*—The subject of the restoration of the Meerees and Beahs was again brought forward, and the reasons why their wishes could not be complied with explained; at the same time they were told that the Meerees and Beeahs would be free to re-occupy their former lands if they wished to do so, but that no compulsion would be allowed. To this they replied that they were too well off, and too lightly taxed, to do so of their own accord,—would I therefore remit their revenues if they did so, or assess them more highly if they did not? I said we could not oppress one class to favor another; still they begged that even a few people might be located, to whom they might resort when they come down to barter, as, without this accommodation, the re-establishment of a haut would be a matter of difficulty.* After the assembly was dismissed, some barter took place between the Abors and traders who had accompanied us, and although it was carried on with a good deal of eagerness, it was on a very limited scale, and they were either unprepared for it, as they professed to be, or they had little to offer in exchange. Salt appeared to be the article most sought after, and for which they gave the produce of their fields, chiefly ginger, which their hills are said to produce of a superior quality, and a few old copper pots, of Tibet or Chinese manufacture, were all they had to offer at the time.†

17*th.*—The Abors having expressed a wish to return to their villages, I dismissed them with such presents as seemed suitable, telling them that they were welcome to visit the plains for the purpose of trade, or to visit their old dependents, the Meerees, so long as they did so in a peaceable manner. With this they seemed gratified, and in return said I should be welcome to go where I pleased in their hills, wherever their authority extended.

18*th.*—We then made an excursion up the river in canoes, sending part baggage and elephants along the banks, and in this manner ascended to within a short distance of the mouth of the Shikoo River, and we might have gone higher had time and the state of our commissariat admitted.

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* This difficulty, I hope, may soon be got over, as a small village of Khanyans have already located on the banks of the Salee, and now that the Meerees and Beahs see the good footing we are with the Abors, some of them may be inclined to settle on their old locations.

† Bees'-wax, Munjeet, and Ivory, appear to have been formerly articles of barter, also Copper, in the form of pots and vessels, no doubt obtained from the Lama country.

We encountered many rapids in our progress but none so formidable as we had been led to expect, the worst we were generally able to avoid by crossing to the opposite bank, or by taking a different channel; and as far as we went, found the river navigable for canoes of a ton burthen. As we approached the hills, the scenery increased in beauty and grandeur; the river now broken into several channels by richly-wooded islands, down one side of which might be seen a furious torrent dashing over stones and boulders or undermining a natural wall formed by deposits of loose stones, the other half encircled by a broad and placid river, with shelving banks of loose stones or glistening sand, again to unite in one mighty stream which glided along in its swift and silent course until some new obstacle caused it to diverge as before. The mountains, with new and ever-varying shadows, deep dells, and rugged sides, and the more gentle declivities at their base, with fields or villages peeping out of surrounding forests, all combine to form a scene well suited to grace the entry of the largest of our Indian rivers, as it bursts upon the plains.

19*th*.—While encamped on the banks of the river, where the path strikes off to the villages of Pushee and Myong, some Abor messengers came to say that a deputation* from these villages was at hand, none of whom attended the meeting with the other Abors. It was the people of the latter village who had intercepted the gold-washers as already alluded to.

As the manner of the messengers, and a warning I received that the new Chief of Myong was by no means well disposed to us, in consequence of the mis-representation of some run-away Meerees as to our intentions on their country, indicated that the deputation was coming more for the purpose of debate, or quarrel, than to apologize for the detention of the gold-washers, I had it explained to the messengers that the morrow would be Sunday, and I could not receive the deputation, but if their object was to explain their conduct with respect to their interference with our gold-washers and for friendly purposes, I would receive them on Monday. I took care, at the same time, to have privately explained to them, the folly of any other course, and also to remove any false impressions.

* Consisting of the Chief of Pushee and the brother of the Chief of Myong. The latter Chief excused himself as he had to attend to his father's obsequies.

The result was, that on the Monday the deputation made its appearance, bringing presents of the produce of their fields and gardens and a large hog.

They explained their conduct with respect to the gold-washers by saying they had accidentally fallen in with them, when a party of their tribe was at the Khanyan village, and seeing they were strangers and of a different tribe from the gold-washers who used to frequent the Dihong, they took them up to hold a consultation at their village, and afterwards dismissed them, but never offered them any violence. As the gold-washers had made no formal or direct complaint to me, and as the Abors assured me that they would not in future interfere with any gold-washers, I did not press the question any further. The Abors then expressed their friendly disposition, but did not, as those to the East of the river, appear to take the same interest in the establishment of a Mart or Golah for traffic. This, indeed, they stood less in need of, as the village of Khanyan and a small village of Meerees afforded them great facilities to obtain salt and other necessaries.

20*th*.—The Bor Abors appear to be a blunt, independent, and warlike race, who, while they have no objection to carry off cattle or what they can lay hands on belonging to other Abors or Meeshmees, make common interest with all those of their own clan.

They acknowledge the authority of a Chief approved by themselves for his ability, but almost every question of consequence appears to be settled in assembly. Some of the villages are large and populous, and all those of the same clan (although wide apart) are prompt in sending them quotas of armed men to any point where danger is apprehended by a part of their community. Their arms are a long spear, long strait sword, dagger, and bow and arrows. Many wear a sort of helmet, made of cane, platted and ornamented with the hair of the yuk, dyed red, as well as by any trophies of the chase, they consider suitable to produce a wild or warlike appearance. Many of them have the mark of the cross tatooed on their forehead, but I could get no satisfactory account of the origin of affixing this emblem. They said it was intended to stand in the place of the brass utensils and other articles buried with them at their funerals, in case they should die poor, and not be able to afford them.

22*nd*.—By a reference to Wilcox's Map of the North-eastern Frontier, dated 1828, you will observe that the Dihong, where it enters the plains of Assam, is not only North of the highest part of the great Himalaya

range westward, but also of the Lama villages on the Brahmaputra eastward, which villages are said to be tributaries to Lassa, consequently the villages of Simong can, I think, be at no great distance from the nearest table land of Thibet, certainly much nearer ; and from appearance of much easier approach from hence than any other pass in the whole length of Assam. For if we can assume the Dihong to be the true Tsanpoie of Thibet, the ascent can scarce be either very long or very difficult, as there appears to be a complete break here in the Himalaya mountains, through which it may be supposed to flow towards Assam. This I think admits of little doubt, as the nearer one, through which it issues into the plains, is the only opening within my recollection from Gowalparah to the Brahmakund, which does not disclose a range of very high mountains in the distance, and of which the accompanying sketch* will give you some idea.

23*rd*.—Could we, therefore, once establish a friendly intercourse with the more distant Abors of Kecow and Simong, with whom we have at present no acquaintance, I should expect that with Thibet to follow.

27*th*.—It may not here be altogether out of place, or uninteresting to you, my observing that a more intimate acquaintance with these Border tribes may lead to the discovery of antiquities now hid in the jungle, which may throw light on the early History of Assam at present so involved in obscurity. For in my late tour, in company with Major Hannay and Captain E. F. Smith, we visited the ruins of what appeared to be very extensive Fortress,† situated between the gorges of the Dikrong and Dihong Rivers, about 24 miles North of Suddyah. Want of time, and the thick jungles with which these ruins were so over-grown, prevented our exploring more than a part of the walls which we traced for several hundred yards, and which appeared to encircle some low hills and table land abutting from the mountains. The walls were of no great height, but in a wonderful state of preservation, and consisted of from six to nine courses of hewn stone (chiefly granite) surmounted by a breast-work of excellent bricks loop-holed, but without any binding of cement. Tradition assigns to this Fort the name of Bishuck, while another extensive Fort, some miles to the eastward, is said to be that of

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* Taken by Major Vetch from Salee-mookh.

† The site of which we heard of from some wandering Meeshmees who were afraid to venture within the ruins.

Sissoopaul; the former the brother of Rukmuine, and the latter her betrothed, as also cousin of Krishna, who carried her off. If this tradition can be relied on, it would make these ruins of great antiquity, but to whatsoever age they belong, they must, I think, be prior to the Ahum conquest of Assam.* If inferences can be drawn from the form of the stones and style of architecture, it probably belongs to the same era as the copper temple, a small square building of granite (the roof of which was formerly sheathed with copper) situated on a rivulet which falls into a branch of the Digaroo River, and which was for the first time visited by any European about two years ago, when I went there on my way to the Brahmakund.

* 1229 A. D.

28*th*.—When up the Dihong, we heard of a temple or some other building surrounded by a tank or canal, which was said to have been discovered by some Khanyans when out elephant-hunting, but of which they could give no very particular account, as they could not approach the building for the water with which it was surrounded, and its existence yet remains to be fully ascertained.

29*th*.—The remains of a stone temple have lately been discovered at the foot of the Abor Hills near the gorge of the Sisee River, and from the carving on some of the stones brought to me, it would appear to be of Boodhist origin.

I have, &c.,
(Signed) HAMILTON VETCH,
Political Agent.

(True Copy)
(Signed) F. JENKINS,
Agent, Govenor General.

EXTRACT of a Letter from the Agent to the Governor General, dated 21st August 1855.

OUR information regarding the Abor tribes has hitherto been very limited. In the beginning of the cold season of 1847-48, Major Vetch held a meeting with several of these clans on the Dihong, as reported in his letter No. 1½, of the 3rd January 1848, in the 9th and following paragraphs, the object of which was to establish a trading post on the

Dihong, and thus to endeavour to open out a direct exchange of products between the tribes of these hills and our traders on the plains, for though there had been before some traffic carried on, it was through the medium of the Meeree tribes, who had originally been slaves or serfs of the Abors, and with whom it was an object to secure the profits of this trade to themselves, by preventing the Abors from holding friendly relations with us by mis-representations of our intentions towards them.

3rd.—It was intended to have followed up Major Vetch's expedition by others; but circumstances have intervened to prevent our carrying out our proposed measures until the present expedition of Captain Dalton to their villages.

4th.—There are some tribes of Abors, West of the Dihong, connected with the Doars of Sisee, Deemoo, and Dijee, who receive from us a small yearly present in lieu of their claims to black-mail, and which was finally adjusted in 1847,* but not without a misunderstanding with the small tribe of Dhoba Abors, which led to an expedition in their hills, conducted by Major Vetch in February 1848.†

5th.—Besides the above, and Captain Wilcox's visit to the Dihong Abors, alluded to by Captain Dalton, we have had no communication with the Abors, except by the occasional immigration of small parties of refugees, which have led to angry messages and threats through the Meerees, and the conciliatory measures now successfully carried out by Captain Dalton will, I hope, effect an object long desired, and free intercourse between the Abor villages and our stations, and put an end to that mistrust between the Assamese and the Abors which, there is great reason to suppose, was from interested motives created and maintained by the Meeree traders.

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* See Major Vetch's letter No. 75, of 19th July 1847, sent to Government with mine No. 67, of the 3rd August 1847.

† See his letter No. 12½, of the 26th February 1848, a copy of which was submitted with my letter No. 29, of 4th April 1848.

FROM

CAPTAIN E. T. DALTON,
Principal Assistant Agent, Governor General,
Luckimpore.

To

COLONEL F. JENKINS,
Agent, Governor General,
Gowhatty.

Dated Dhokwakhanah Camp, 8th August 1855.

SIR,

HAVING, in February last, availed myself of a favorable opportunity of visiting one of the settlements of the Abors near the Dihong River, I have the honor to submit the result in the form of a journal kept on the occasion, embracing all the information regarding this clan that I was able to pick up.

2*nd*.—You are aware, that for some years our relations with these Abors have not been altogether friendly ; much of the bad feeling subsisted was engendered by the machinations of the Meerees to maintain their own influence as go-betweens, which could only be done by keeping the Abors from direct intercourse with the plains.

3*rd*.—I had a conversation on this subject with one of the Membu Abor Gaums, whom I accidentally met on the river, and on my suggesting a friendly visit to his village as a means of establishing confidence, he received the proposal with evident satisfaction, and this determined me.

4*th*.—The result, as far as can yet be judged, is favorable. I have since had several friendly visits from Dihong Abor Gaums of different settlements, a direct intercourse may be said to have commenced, and our own ryots approach the Abor territory in perfect confidence.

I have, &c.,

(Signed) E. T. DALTON,
Principal Asst. Agent, Govr. Genl.

(True Copy)

(Signed) F. JENKINS,
Agent, Governor General.

VISIT to Membu, an Abor Village, near the Dihong River. By Captain E. T. Dalton, Principal Assistant Agent, Governor General, in 1855.

In the able Memoir, by Lieutenant Wilcox, of the Survey of Assam, and the neighbouring countries in 1825-26-7 and 8, published in the 17th Vol. of the Asiatic Society's Researches, there is an interesting account of a visit paid by him to the Membu Abors on the Dihong Rivers. This I had not read when I wrote the Journal from which the subjoined Notes are transcribed, but though I now find that my information is not altogether new, I have not omitted any observation, or incident, I had previously recorded, as the two accounts will show how very little this singular race have changed in more than a quarter of a century of time. I am, moreover, in hopes that my Notes on the habits, customs, and characteristics of the Abors may not be without interest, as very little information on these points has been published.

2*nd.*—The term Abor, signifying barbarous, rude, independent, is, by the Assamese, applied very indefinitely to all the independent hill clans on both sides of the valley of Assam, but it is more peculiarly the appellation of the hill races on the southern slopes of that portion of the great Himalaya range between the Dihong and Soobunsheri Rivers.

3*rd.*—There are five settlements of Abor, or as they call themselves "Padam," in the lower ranges bordering on Assam, in the vicinity of the Dihong River, *viz.*, Membu, Silook, Padoo, Pashee, and Bomjeer. In regard to their relations with our Government, they might be called the united or confederated Padam States, but each community in its internal affairs is governed by its own laws, devised and administered on purely democratic principles.

4*th.*—It has been assumed that they are in some measure dependent on the kindred clans occupying the loftier ranges behind them; but I believe that the villages of the Padam, bordering on Assam, are larger and in all respects more flourishing than those in the interior; and I am inclined to think they consider themselves as independent of their northern as of their southern neighbours.

5*th.*—Though the most accessible, they have hitherto been the least known of the hill tribes bordering on Assam. We have had little direct intercourse with them and the Meerees, through whose intervention the Abors have maintained some trade and communication with the

plains, and have done all in their power to keep us apart. The Abors have kept clear of all the outbreaks of other clans that have at different times disturbed the frontier of Upper Assam, maintaining, on all occasions, a strict neutrality; nevertheless, on their own account, they have once or twice been on the brink of a quarrel with us, in consequence of their asserting and our refusing to admit their exclusive right to the Dihong River, its fish and its gold; and because we turn a deaf ear to their demands to have the Meerees, whom they consider their slaves, restored to them or made to live where the Abors could coerce their services.

6*th*.—Membu is the largest of these neighbouring Abor settlements, and is reported the most influential in the confederate councils. For several years, from mistrust arising out of the dispute above alluded to, its inhabitants have seldom been seen in the stations of Assam; but having received an assurance from some of its chief men that if I went to their villages, in a friendly and confiding manner, I should be well received; and impressed with the conviction that the mischief-making propensities of the Meerees could be counteracted in no better way, I determined to avail myself of an opportunity of paying them a conciliating visit, and Lieutenant F. G. Eden, of the 1st Assam Light Infantry, volunteered to accompany me.

7*th*.—We proceeded up the Dihong in boats, and on the 31st January 1855, reached the point near the foot of the hills, about sixteen miles from the junction of the Brahmaputra and Dihong, whence it was necessary to continue our journey to Membu by land. Up to this point the navigation of the Dihong presents no difficulties. The rapids are mild in comparison with those met with on the way to the Brahmakund; and the Saikwah boatmen think nothing of them. We found ourselves here in sight of the villages and cultivation of the Pashee, Padoo, and Membu Abors. I sent off a party to give notice of our approach; they very soon returned with three Membu Abors whom they had met on the road, who offered to take us up at once with them, and assured us a hearty welcome. One of them, an old man, named Jowlung, thought it necessary to call the sun and moon to witness the sincerity with which this was asserted. Another amusingly added, that the Abors were trusty, but were we so? As, however, we had to wait for elephants, it was eventually decided, that two of them should go before and prepare for us; and that we should start for their village on the 2nd, under the escort of the third.

8*th.*—2*nd.*—We marched at 9½ A. M. Road or pathway skirting the river for three miles, then plunges into a magnificent forest and proceeds due North. At the edges of the forest, and overlooking a fish-dam thrown across a white-crested rapid of the Dihong, the Abors have a halting place, a long shed capable of containing 100 men, with racks for drying fish. The forest contains fine timber of good growth. Noticed Nahi, Amari, and Hilika, and a good sprinkling of cautchouc trees. It is intersected by a small stream called the Sidee soil, to rise from a spring close by. A few Abors from the village met us here and returned with us. After traversing about six miles of forest, we emerged on Abor clearings, though we understood we were not yet half way tosthe villages.

9*th.*—Their cultivation is almost all in the plains and they have gradually extended it to a distance of about seven miles from their villages. They cultivate rice, cotton, tobacco, maize, ginger, red pepper, a great variety of esculent roots and pumpkins ; they have also a good kind of sugar-cane for which their soil, a rich black loam, appears admirably adapted. Of late years they have added Opium to their crops, and the use of the drug is rapidly spreading amongst them. Against unnecessarily breaking up new lands, they have a wholesome prejudice, which I should be glad to see adopted by our own ryots. When the land they have been cultivating appears exhausted, they revert to that which has been for ages fallow. Under this system, the whole space from their villages, to the most distant point of their cultivation, about seven miles, has been cleared and appropriated, and the whole forest is spared. The boundaries of each man's clearing are denoted by upright stones ; and property in cultivated and fallow land is recognized. For implements of husbandry, they have only their long knives or swords, crooked bamboos to scrape the earth, and pointed stick to make holes, into which they dexterously shoot the seed grain. It is thus they rear their principal crop of rice, and it gives them a good return. Industry and the richness of the soil make up for all deficiencies, and seasons of scarcity are rare with them.

10*th.*—The remainder of the march was all through cultivation or fallow land. It was intersected in various directions by well-cleared paths, that on which we were travelling looked as if it had been recently swept.

11*th.*—The country became undulating as we approached the hills, and after one steep ascent we suddenly found ourselves overlooking the little valley of the Shikoo and arrested by a formidable barricade, con-

structed, however, not to oppose our progress to the village, but to keep the village mitheens from straying to the cultivations.

12*th*.—Here we met another deputation of Abors who readily consented to remove the barrier sufficiently to admit of our elephants passing. All owners of cattle have a deep interest in the preservation of this fence. The penalties exacted for trespasses by cattle are rigorous and, perhaps, deserving the notice of the Indigo Planters' Association and Legislative Council! The sufferer without troublesome intervention of judge, magistrate or jury, estimates himself the amount of damages, gives a decree in his own favor, and proceeds forthwith to execute it by helping himself from the granary of the owner of the trespassing mitheen. With the mitheens which have been often described, pigs and poultry complete the number of their domestic animals.

12*th A*.—As we looked down on the Shikoo, the scene that opened on our view was very beautiful and interesting. The river flows through a deep glen meandering amongst crumbling cliffs of gravel and conglomerate, mixed with layers of coarse sand stone. In the bed breaking the streams into noisy rapids, alternating with still pools, are vast fragments of the cliffs and of a steeped and mottled quartzose rock, pink and white, of which the next hills are composed; one hill rising from the stream looks as if it had been cleft from top to bottom. The entire section of the hill is exposed and it is one mass of gravel and borders. Across the glen and stream, there is a high level suspension-bridge of cane, of simple and ingenious construction, and a low level temporary bridge of timbers. The latter is composed of planks thrown across piers of loose stones and crodles of bamboos, girded with cane rails on both sides, render the passage of the bridge easy and safe to the most nervous person.

13*th*.—The canes forming the main support of the suspension-bridge, are thrown across beams supported partly on triangles of strong timber, and partly on trees opportunely growing where required. These trees have stags to counteract their flexibility, and they and all the sustaining canes are made fast to other large trees or to piers of loose stones like those supporting the low level bridges. The road-way is also formed of cane, attached to the main and minor suspenders by elliptical gardens of the same material.

14*th*.—The suspension-bridge sways considerably, but there is no danger or difficulty in the passage across, and the smallest children that can toddle, and men and women with heavy loads are continually using it.

I am told that some portion of it is repaired every year, so that in three or four years it is all renewed. On both sides of the Shikoo, in the vicinity of the bridge, there are some indications of a taste for landscape gardening. The low brush-wood cleared away, all fine trees carefully preserved, clumps of bamboos evidently planted in effective positions and fenced in and groves of jack trees similarly guarded. The paths though rugged, are well cleared, and some labor has been bestowed to render steep descent as easy as circumstances admitted.

15*th.*—We took the shortest and steepest road to the villages which is about a mile and-a-half from the bridge, sending the elephants round by a more circuitous but easier road. An ascent of about 300 feet brought us to the first houses, a group of granaries, wisely kept apart from the village, to preserve them in case of fire; then came the houses of the inhabitants closely huddled together, and except that they all face the same way, built without order at the discretion of the inhabitants. Our entrance excited some curiosity but no alarm. We passed one or two scowling faces, and it is possible that some observations were mentioned, which, had we understood them, could not have been considered complimentary; but generally the inhabitants, male and female, appeared to look upon it as great fun. They pointed to the moorung or town-hall as our destination, and when we reached it, finding that I was not pleased with the quarters allotted to us, I was told that Wilcox sahib and Neufville sahib, the only British Officers they had previously seen in their village, had thought them good enough. This was a snub for me; however I selected another site where there was more space and less dirt.

16*th.*—We were now introduced to the Gaums or leading characters, (chiefs they can scarcely be called) as a community so essentially democratic as we found this to be, and made known our wants. Curiosity had collected around us all the idlers in the village: but they showed little inclination voluntarily to assist or to obey the orders of their Gaums to do so, till Lieutenant Eden set them the example of lifting and removing ponderous stones from the space required for our tents; and seeing one of us thus at work, they gave some assistance without fear of compromising their dignity as independent citizens. As the villagers came in from their cultivations in the evenings, the crowd about us increased. Our friend Jowlung had prepared us for the ordeal, and we submitted ourselves patiently to the scrutiny of the rough and dirty, but good-humoured mob.

The approach of night did not drive them away, and we had to make a solemn appeal to the good feeling of the Gaums for a respite, whilst we dined. They addressed the crowds in tones of loud expostulation, and it had for a time the effect of partially dispersing them. After we had dined, the head-men came again and the crowd re-assembled in front of the tent. Eden gave them some tunes on the cornopean, which excited great admiration, and more *encores* then the weary performer could attend to; but without the stimulus of music, they were quite content to stand outside in the cold so long as they could see what was going on inside the tent. At last pleading fatigue, we shut up, put out the lights, lay down to rest, and after a little murmuring, and one or two attempts at intrusion, we were left in peace. A section of the villagers adjourned to the Moorung close by where they caroused till mid-night, and thus went jovially home. Shortly after, shrill-voiced boys were heard going through the villages, in different directions, repeating some words in a clear monotone, like a street cry, and then, with exceptions to the occasional grunt or squeak of an obtrusive pig, or the crying of a child, all was still.

17*th.*—3*rd February.*—A wonderful chorus of cocks announced (much before the proper time) the approach of day. At earliest dawn the monotone cry of the preceding evening was repeated all through the villages. This we subsequently learnt was an order proceeding from the citizens in "Morung" assembled, proclaiming a holiday in honor of the visitors, consequently every one remained at home. At an early hour we perambulated the villages under the escort of our friend Jowlung. He introduced us to all the families of distinction, and at each house a jorum of mhud, as a cup of good fellowship, was proffered, and the ceremony of tasting it conformed to. Our guide made up for our deficiencies in the quantity imbibed. The beverage is a kind of small beer, palatable and innocuous in moderation when fresh brewed, but exceedingly disagreeable both in taste and in its effects when at all stale.

18*th.*—More than once during the morning walk, the owner of the house we were visiting, suddenly struck with the thought of swearing eternal friendship, made known his resolve by an offer to exchange coats. Before the purport of this extraordinary proceeding had been explained to us, it was somewhat startling to see a brawny Abor violently gesticulating, and at the same time working himself out of his upper garment as if stripping for a pugilistic encounter, but as the offer, though perfect-

ly disinterested, as far as regarded the value of the respective raiments, involved a transfer of certain other property (live stock) which I had no desire of possessing, I was obliged to decline fraternization after this classical model. The village occupies some twenty acres of rocky, craggy ground, at different elevations, varying about 200 feet. It is sheltered by lofty peaked hills, that as you look towards the North embrace it on three sides. To the South, from the most elevated sites, a fine view of the plains of Assam is obtained. The whole course of the Dihong River, from the hills to its junction, with the Brahmapootra, and many miles of the combined rivers, are discernible.

19*th*.—The houses are nearly all the same size, and from about forty by twenty feet each, with a verandah or porch, one hearth, and no inner enclosure. They are apparently not intended for the accommodations of more than one married couple; and in practice it appears that when a man marries he leaves the paternal roof and builds a house for himself. In this he is assisted by the community, and all the component parts having been previously collected, prepared and arranged, the house is framed, floored, thatched, and ready for his reception in four-and-twenty hours.

In trimming and fitting the frame-work of timber, some trouble is taken; the flooring of bamboos is four feet from the ground; the walls and doors are of planks, and the thatching, which comes down on all sides as low as the flooring to keep off the high winds, is of grass, or more commonly of dried leaves of the wild plantain. We had an opportunity this morning of seeing a house commenced and under construction, next day it was completed and occupied by the family.

21*st*.—As we could only see a portion of the villages at one view, I found it difficult to estimate the number of houses, and from the Gaums, whose notions of arithmetic are of the vaguest kind, I could get little information. From one crag I could count about 150 houses, the lower and most compact part of the town. There are probably as many more in the outskirts. All round bamboos and jack trees are planted and carefully fenced, and one of the most influential men has near his house a grove of beautiful palms, surrounded by a loose stone wall.

22*nd*.—The inhabitants are well supplied with water. There are several springs, and the discharges from these are collected and carried to different parts of the villages in aqueducts or pipes of bamboos, from which it constantly flows. In the Garrow villages, where the same

method for the supply of water is adopted, I have seen the inhabitants washing themselves by squatting under the spouts; but I am sorry to say that my friends, the Abors, never avail themselves of their water privileges for ablutionary purposes; they consider dirt an antidote to cold, and positively cherish it.

23*rd*.—There is a burial-ground at one of the entrances to the village. Over the graves are constructed minature houses, in which every day, for one year, of mourning, a fire is lighted and fresh food is placed. Beneath this is a small under-ground chamber made with planks or bamboos; the body is burnt, bound in a sitting posture, a practice common to all the clans having affinity with the Abors. Some of these clans bury with their dead arms and equipments that they may appear in the next world as great warriors. This I was given to understand is not the custom of the Padam Abors.

24*th*.—Returning to the tent, we found it surrounded by women and children, prepared to make the most of the holiday allowed to them for the express purpose of making our acquaintance. We did our best to gratify them. All the curiosities, including ourselves, were freely submitted to their scrutiny. As the docility of the elephants had, whilst unloading the previous evening, excited great interest, they were sent for again and made to exhibit, and finally all were made happy by a distribution of glass beads and salt.

25*th*.—Amongst the females goitre seemed to be a common disease, and numbers were further disfigured by bad sores and cutaneous disorders, the concomitants of filth. In general, however, they are a strong healthy-looking race, comparatively free from the epidemic diseases that occasionally decimate the Assamese; and from all the information I could collect on the subject, the population is an increasing one. The village must have doubled in size since seen by Lieutenant Wilcox, but this is partly owing to the emigration to it of Abors from the interior. For savages, the adult females are decently clad; and their demeanour, though free from timidity, levity, and unconstrained, is totally devoid of any appearance of immodesty.

Their dress consists of two cloths, generally tinted blue and red, manufactured by themselves from cotton grown in their own farms. One round the loins forms a petticoat just reaching to the knees; it is retained in its position by neat girdles of cane-work. The other is folded round the bosom, but this is often dispensed with; and the exposure

of the person, above the waist, is evidently considered no indelicacy. Their necks are profusely decorated with strings of beads reaching to the waist; and the lobes of the ears are, as usual with the hill races, enormously discrowded for decorative purposes. Round the ankles, so as to set off to the best advantage the fine swell of the bare leg, broad bands of cane-work are tightly laced; and some of the *belles*, most particular about their personal appearance, wore these anklets of a light blue tinge—but the most singular article of their attire remains to be discovered. All young females, till they become mothers, wear, as an undergarment, suspended in front from the loins, a row of from five to a dozen round embossed plates of bell-metal, which rattle and chink as they move. Very young girls, except for warmth, wear nothing else, but the smallest of the sex is never seen without these appendages.

27*th*.—The Abor women, in features and complexion, approaching nearer to the Chinese than to any other known type, are not much distinguished for beauty; but amongst the forest of happy faces, massed in front of the tent, were some merry youthful ones that were almost pretty and would have been quite so with a freer use of water and more becoming coiffeur. They are hard-worked, but the whole burden of field labour is not thrown upon them, as is the custom amongst most of the hill tribes. Wives are treated by their husbands with a consideration as marked, as it is singular, in so rude a race; but then, in marriages the inclinations of the parties most concerned is consulted, and polygamy is not practised. This is a notable characteristic, I do not say it is the rule, but it certainly is the prevailing practice of the Padam only to have one wife. They spoke with contempt of those who had a plurality, and I was assured both by Membu and Silook Abors, that the Padam generally repudiated the custom as leading to jars and dissensions. In the Membu village, there is, I am informed, only one individual with more than one wife. On all sides of them a different practice prevails. Amongst the Abors, bordering on Sisee, a man may have as many wives as he can afford to buy, the wealthy thus monopolize more than their share, and if another revolting practice that of polygandiaism did not obtain, many of the poorer classes would probably be debarred from all share of conjugal felicity. It is not unusual amongst *these* Abors for two brothers to have one wife between them. Amongst the Chulikattas, to the East of the Padam, great chiefs have been known to have had as many as sixteen wives at a time. The Digaroo and Tyung Mishmees

are equally unlimited in their uxorious propensities. One of them, well known in Assam, appears in the plains every year with a new wife !

28*th.*—Marriages are sometimes, amongst the Padam, arranged by the parents, but more frequently I believe, the young people settle these affairs for themselves; and from all I could learn a feast is the only ceremony required to ratify and declare the happy event, but it is customary for the lover to present his mistress and her parents with such delicacies as *field mice* and *squirrels.*

29*th.*—In a society where all are equal in rank, and where the productive industry of a man and his wife is sufficient to maintain them in all necessaries and luxuries enjoyed by their neighbours, and where the community assist the young couple at starting by building a house for them, fathers and mothers have little occasion to *manœuvre* matches. It is a fact, that amongst the Padam they seldom interfere; and to barter their child's happiness for money, would be regarded as an indelible disgrace.

30*th.*—The Abors, however, view with abhorrence the idea of their girls marrying out of their own clan; and I was gravely assured, that when one of the daughters of Padam so demeans herself, the sun and moon refuse to shine; and there is such a strife in the elements that all labour is necessarily suspended, till by sacrifice and oblation, the stain is washed away.

The hair of both males and females is close cropped, which is done by lifting it on a knife and chopping it all round with a stick. The practice of tattooing is resorted to by both sexes. The women have peculiar marks about the mouth. In the hollow of the upper lip, immediately under the nose, is figured a cross; and on both sides of it, above and below the mouth, are stripes generally, but not always, seven in number. On the calves of the legs they bear the marks shown in the margin.

X ‡ X

The men all wear a cross on the forehead, between the eye-brows; the peculiarity of these marks and their resemblance to Christian symbols have led to various conjectures regarding them; but the Abors themselves have no traditions that would warrant the belief of their being the remnant of early catholic teaching.

31*st.*—In regard to male costume, the smallest particle of covering is all that is considered necessary for purposes of decency, but when full dressed, an Abor is a very imposing figure, coloured coats, without sleeves, of

cotton, their own manufacture, or of from the manufacture of their neighbours, the Chulikattas, are commonly worn. Some wear long colored cloaks, with loose sleeves, of woollen cloth, obtained from Thibet and they make themselves warm jackets of; and use as wrappers and blankets, white cotton cloths of their own manufacture with a long fleecy nap. For war and on state occasions, they wear helmets of very formidable and picturesque appearance. The foundation is a strong skull-cap of cane. The best are obtained from the Chulikattas, who, in making such things, are more ingenious than the Abors. It is adorned with pieces of bear skin, chowry tails dyed red, boars' tusks, and to crown all, the beak of a vaceros. For arms they have cross-bows and common bows, with arrows, the latter used with and without poison; very long spears, daggers, and long straight-cutting swords. By their own account, it is on the latter weapon they chiefly rely in warfare, and they are fond of exhibiting their skill in using it. I believe they consider themselves quite competent to meet our troops in the open field on equal terms; and as they have never felt the effect of fire-arms, it is probable that their first experience will be dearly purchased. They laughed at the Manual and Plantoon, that the small guard we had with us were made to go through for their edification, and showed how they would run round and cut them in bits with their clagmores, whilst the sepoys were loading. That such would be their tactics in their first engagement with our troops, I think highly probable, but they would not try them a second time.

The only fighting that the present generation of Abors has been personally engaged in has been a long war with the Chulikattas who are armed the same way. Peace, ratified by a feast, has recently been declared between the Chulikattas and the Abor clans next to them, but the Silook and Membu Abors look with suspicion on all Chulikatta professions of amity. They pronounce them to be a treacherous race who would eat your salt to-day and cut your throat to-morrow.

32*nd*.—In the afternoon we were invited to take our seats in the Morung to confer with the citizens there assembled. The Morung is in the same style of architecture as the private houses, but it is 200 feet in length and has sixteen or seventeen fire-places, round all of which were seated groups of citizens. On our first entering, there was an attendance of 180 adult males, but when the debate was at its height, there could not have been less than 300 present, besides small boys who took

up observing positions on the rafters. We placed our chairs opposite the central fire-place, round which the head-men congregated. There was *first*, Bokpang, a short stout, jolly-looking individual, who, from the influence he exercised generally in the assembly, especially when a call to order was necessary, and from his manner of opening the debate, I was inclined to consider as the Chairman or President, and in charge of the Foreign relations of the State ; *second*, there was Looitem, the Nestor of the republic, who made the longest speeches, going extensively into early history and precedents, and expatiating with spirit and strong enthusiasm on the ancient renown, virtue, and valour of the Padam race; *third*, Jewlung, the War Minister, a young man of stalwart frame, tall and well-built, with a fine open countenance. I think he would prove, on occasion, the most trusty friend or most dangerous foe of all the Membu notables. His father Kiri, who is still alive, a retired Statesman, had at one period of his life more influence in Membu than is now possessed by any single Gaum. Jewlung is, I think, working himself into the same position and may be looked upon as the "coming man." Of the other Gaums I can only give the names as given to me ; *fourth*, Junkoor ; *fifth*, Sabdook ; *sixth*, Bomood ; *seventh*, Bamad. I had no means of estimating their respective influence or merits; but I found, with regard to the position of one or two of them, there was a difference of opinions ; all agreed that there were seven Gaums, but all did not appear agreed as to the individuals who just then constituted this august body ; and it is both possible and probable, that the list was increased with an eye to the distribution of presents.

33*rd*.—The conversation commenced by a blank speech from Bokpang, which, on being interpreted, proved to be an inquiry as to what possible object we could have had in visiting them. It was not easy to persuade them that there was nothing reserved, no *avuerée pense* in the assurance that the visit was solely intended to inspire confidence and friendship. When they were tired questioning on this point, we had to listen to a succession of long harangues, arrogating, at the outset, very extavagant pretensions on the part of the Abors ; but as these were disposed of in reply, dwindling down to more reasonable claims. At one time the debate was rather stormy and disorderly, a factious demagogue, named Jolook, arose and declared it was all humbug to talk of friendship, if no concessions were to be made to the Abors ; and that for his part he was not going to fraternize on such terms. A hot debate ensued, but it ended in Jolook's dis-

comfiture; and a fresh view of *mhud* having been introduced, we all drank to good fellowship, including the turbulent Jolook. We had not exactly come to an agreement upon all the questions discussed. The Membu Padam would not take upon themselves to resign the claims of the Padam confederacy, but they disclaimed all idea of ever attempting to enforce them. The *finale* was a proposition that, in accordance with Padam custom, the friendly alliance should be sealed by a solemn feast called Sengmung, in the estimation of the Abors, inviolably binding on the high contracting parties. They were to eat what we provided, and we were to eat what they provided. The republic would give a mitheen and some pigs; and they suggested that if we *slaughtered one of our elephants* for them it would suit their taste exactly. To this we demurred, but admitting the propriety of cementing friendship in the manner proposed, I offered to buy a mitheen for them and this was agreed to. I then gave them some tobacco and salt which was divided amongst all present, by a portion being sent to each hearth.

34*th*.—No presents are openly received by the Gaums for themselves. Everything given on public grounds is lodged in the common treasury to be disposed of for the benefit of the whole body corporate. Belonging to the Morung are public pigs, poultry, and other possessions to be used as occasion requires. Fines, forfeitures, and escheats are similarly appropriated; but in regard to punishments, their system is one of the most extraordinary that was ever devised. After some study of the matter, I find that feasts and sacrifice are expiation for every thing. The crime of an individual is treated as a public disgrace to be atoned for by all. The culprit has eventually to bear the expense of this; it may therefore be regarded as a fine; but the process of realization is a most singular one. Suppose it is decreed that in expiation of the offence a pig is to be sacrificed, the "Raj," that is the community, appropriate for the purpose the first animal of the kind, in good condition, and private property that comes to hand. The owner is at liberty then to fix his own value upon it, and recover as best he can from the culprit. It may be said that it would have been simpler to have proceeded in the first instance against the property of the offender, but where all are judges, who will condescend to act as a mere Sheriff's officer? The system adopted provides an executive without any trouble to the "Raj" or expense to the State.

35*th*.—There is no power vested in the community to take life or inflict corporal punishment on a *free-born citizen*, but like another model re-

public, they have their "domestic institutions," and the law of the master is not the law of the slave. I heard of a slave having been put to death by his master by order of the "Raj" for having seduced a free-born girl.

36*th.*—I was right glad, at the conclusion of the conference, to emerge from the fœtid atmosphere of the Morung and breathe the fresh air. What with tobacco smoking, *mhud* drinking, loud talking, pestering, questioning, and the vicinity of the public pig-sties, I never had a more troublesome and unpleasant diplomatic duty to perform.

37*th.*—The necessity of interpretation made the long harangues all the more tedious; and as great importance was attached to every word spoken, great care was required to have the speeches on our side correctly rendered.

38*th.*—The Morung is occupied every night by all the adult males in the village, free men and slaves, who are not married ; and I am informed that with them a certain proportion of the married men are nightly on duty, so as to constitute together a sufficient available force for any contingency of attack, fire, or other public necessity.

39*th.*—That night the orders issuing from the Morung proclaimed that next morning the women only were to go to work in the fields. The men were to remain for further conference with the visitors.

40*th.*—4*th February.*—As the arrangements for the feast of "Sreng-mung" were likely to delay our departure till the afternoon, we determined on making a short march from the village to the Shikoo, where we hoped to spend a quiet evening. Before leaving, we paid another visit to the Morung and had more long speeches to listen to, but though some of the discussions of the previous evening were re-opened, the debate was carried on in an orderly manner. The principal speaker being "Bok-pang" who assumed a placid conciliating tone. They pressed us greatly to make a longer stay, and considering the amusement we had afforded them, the presents that we had made them, and that our people bought up all their spare cloths and curiosities, I dare say they were perfectly sincere in the desire they evinced to see more of us: but we had had quite enough of their uncouth society and declined trespassing any longer on their hospitality.

41*st.*—On our way down to the river, we met, returning from their day's work, groups of merry girls, with most of whom we had made acquaintance on the preceding day. One was the bearer of two fine pieces of sugar, one of which she gracefully presented to Lieutenant Eden and

the other to me, as she bade us a smiling farewell. When they found we were to halt at the Shikoo, several returned with us to the encamping ground and supplied us with fuel and yams, receiving *guerdons* of salt in exchange. We pitched our tent in a grove of trees between the Mythun barricade and the river, in sight of the two bridges—a most desirable spot for a small encampment, which we might have availed ourselves of at first; but in trusting yourself in the hands of savages it is good policy to take up quarters in the very midst of them and their families. In such a position, if you can attain it, the most barbarous tribe is not likely to attack you. They feel answerable for your safety and dare not abuse the trust reposed in them. If you camp at a distance, you are not so safe; you appear to evince less confidence in those you are visiting, and your position affords hope of being able to shift responsibility in case of harm befalling you.

42*nd.*—We had plenty of spectators from the village whilst we camped, bathed, and dressed, but as evening closed, they dispersed. We were left to ourselves; and our servants and the guard who had not had a comfortable meal since we quitted the boats, cheerfully betook themselves to the task of preparing one. Our own culinary operations were performed in a manner rather more appetizing than they could be in the midst of the pigs, dogs, and dirty mass of the village, and soon all were engaged in cooking or eating, and in talking and laughing over the adventures of the two preceding days. Suddenly all sounds of mirth ceased; a cry of alarm arose; we rushed out to ascertain the cause and found every one outside gazing in mute astonishment and terror at the spectacle that was presented and which certainly was most startling.

43*rd.*—The opposite heights were illumined by the glare of not less than a hundred torches, moving rapidly down, and marking the windings of all the paths that led from the villages to our camp. They were borne by armed men who advanced swiftly towards the bridge, crossed it, and were soon beside our watch-fire. They were headed by a woman who pressed on eagerly, not pausing to notice us; and it was explained that the object of the expedition was to search for two children of her's missing since morning. Some of the party re-lighted their torches at our fire, then hurrying on, all disappeared behind the Mythun barricade. Group after group succeeded. The place was alive with torches appearing and disappearing amongst the rocks on the opposite side of the river, and illuminating the valley, and reflected from the river as they

crossed the suspension-bridge. Our people were greatly alarmed, but after questioning different parties, I saw no reason to doubt, as they did, the cause assigned for this eccentric proceeding; and after satisfying ourselves that the Abors did go in the direction they professed to be going, we gave ourselves no further trouble about it.

44*th*.—But we were destined to be disturbed again. Shortly after mid-night, I was violently aroused from my slumbers by some one calling out Sahib, Bor Sahib, Captain Sahib, in a voice that could only belong to an Abor or an Ophicleide. Notwithstanding the expostulation of the sentry, the purdahs of the tent were gently raised, and a head appeared. It was that of the demagogue "Jolook." "We have been sent," he said, "to stay and watch with you lest you should be alarmed by the incursion of the searching party and its return late at night."

45*th*.—I got up and went out and found Joulung, Jolook, the "Deodur*" or village priest, and others seated at our fire, and entered into conversation with them. In regard to the torch-party they stated, that a woman, a widow, with two children, one an infant at the breast, the other a boy of three or four years, had gone to the farm early in the morning. She tied the small child on the back of the boy and proceeded with her work. When she gave over for the day, and was preparing to return, the children were missing; she searched till evening without success, but was not much alarmed as she concluded they had gone home: but when she reached home and found no children there, she made her cries heard all through the village. "How could we sit still and listen to them;" a meeting was called; the young men all equipped themselves, and, as fast as they could get ready started for a search.

46*th*.—I thought this little incident highly creditable to the Padam republic. Rough and rude as they are, their hearts must be in the right place, when at one poor woman's sorrowing cry, a whole community arise and go forth into the cold damp air prepared to pass the night in searching for an infant. No mandate was sent forth; no apathy was shown; no excuses were made. The widow's grief was as a spark to a train of honest sympathy, and it at once burst forth in a train of active benevolence. The torches are prepared and the young men go forth. The next

* More correctly the chief Augur. His office being to foretell events by examination of the entrails of birds and other means. The Deodur is also the Depository of all their traditionary law, sacred and profane.

thought of the elders is given to their guests on the Shikoo; and surely nothing could have been kinder, or in better taste, than the determination they came to. They reflected that the sudden rush of a large body of men, through our camp, in the middle of the night, might give us occasion of alarm and mistrust. They therefore sent a deputation of their own body to stay with us and inspire confidence. The deputation constituted themselves into a watch; and though it rained heavily towards morning, and there was a shed close by to which they might have retired for shelter, they would not give up their exposed position in front of our tent.

47*th.*—Losses of children, in the manner described, are said to be of frequent occurrence. They are most probably kidnapped by other dams, but this is the most likely solution they were not disposed to admit. They asserted that the "Deo's" spirits *hid them.* This they could prove, as, in the event of the first search proving unsuccessful, it was their practice to cut down large trees in the forest. This mode of retaliation immediately caused a commotion amongst the "Deos." "What's the row now," says one. "Oh," replies another, "the Padam have lost a child." "Then who has got it, give it up quick, or the rascals won't leave us a tree." Then the child is found in the fork of a tree or some other out-of-the-way place.

48*th.*—We sat some time with the watch. A bottle of rum was produced and under its influence they became very communicative and musical. The Deodar sang songs purporting to tell of the creation of the world and the origin of the Padam race. These, which would have been worth knowing as containing the Padam tradition, were very imperfectly rendered to me by the Meeree interpreters, though the priest gave a meaning commentary on each stanza for its more easy solution.

49*th.*—The human family are all descended from the common mother. She had two sons, the eldest was a bold hunter. The younger was a cunning craftsman. The latter was the mother's favorite; with him she migrated to the West, taking with her all the household utensils, arms, implements of agriculture, and instruments of all kinds, so that the art of making them was lost in the land she deserted; but before quitting the old country, she taught her first-born how to forge daos and to make musical instruments from the gourd, and she left him in possession of great store of blue and white beads. These beads, and the simple arts known to him, has transmitted to his posterity the "Padam," and from him they received the injunction to make themselves in the fore-

head with a cross. The western nations are descended from the younger brother and inherited from him, and the continued instructions of the mother, their knowledge of science and art.

50*th.*—The above is a very imperfect synopsis of the long legends sung by the Deodar. I hope, on some future occasion, to be able to give a fuller account of these ballads which appear to contain all their traditional history.

The religion of the Dihong Abors appears to be much the same in practice and belief as that professed by kindred tribes to their West, an account of which may be found in a former number of the Asiatic Society's proceedings.*

51*st.*—They believe in a future state as one of reward or punishment for the actions of this, but acknowledging one Supreme Being as the great father of all. They adore and offer sacrifices to a great number of Jyloun deities, whom they invest with attributes, each with one, from all that their course of life leads them to reverence or fear.

Thus they have no medicine for the sick; for every disease there is a spirit, and a sacrifice to that spirit is the only treatment attempted.

A mountain called Regam, is as the abode of one or more spirits, a place held in great awe. No one can return from its summit, consequently its mysteries are undisclosed.

52*nd.*—In regard to their sacrifices, one trait is particularly worth noticing; generally, with hill clans, a sacrifice to the gods is nothing more than an excuse for a debauch.

In cases of sickness or deaths, when an animal valued as food, a mitheen or a pig, is offered by the Padam, no one is allowed to share the feast with the gods except the very old men who, as poor and superannuated, may be regarded as on the "parish," and who live in the Morung at the public expense.

53*rd.*—The Abors do not acknowledge any direct trade with Thibet, though they have and use many articles of Thibetan manufacture. Thence come their sword-blades, tobacco pipes, woollen cloths, and copper cooking vessels, and the blue and white beads, to which they assign a celestial origin, are no doubt imported from the same quarter. They tell wild stories of the agency employed to supply their wants from Thibet, and I think their intercourse with that country must either

* *Vide* an Account of a visit to the Hill Meeree tribe on the Soobunshir.

have diminished than increased since we first became acquainted with them.

54*th.*—We know for certain, that to the East of the Abor the Chulikatta and Meeshmee clans extend across the range from the Assam Valley to the frontier of Thibet, and the representatives of these clans in close proximity to the Lamas differ in no essential respect from those bordering in Assam. But the Abors tell you of the existence of barbarous tribes with whom they have no affinity in the higher ranges behind them and you meet with no one of the clan who acknowledges to have passed this barrier of savages.

55*th.*—The requirements of the Abors are at present very trifling. All they take from Assam is salt, iron, brass cooking pots, a few silver ornaments, and Erin cloths. They give in exchange their long-napped white cotton cloths which are much prized as rags or quilts, ginger, red pepper, and sometimes rice.

55*thA.*—5*th February.*—Early this morning all the Gaums, and a large deputation from the villages, made their appearance in our camp, bringing the mitheen, a very fine bull, as their offering to us for the "Sungmung." Mine, which I had paid for the day before, but had not seen, they acknowledged having received, and it was to be slaughtered and eaten that day. This done, we stood in the relation to each other of sworn friends; and I took the opportunity of our being out of the village to each of the most influential of our new friends.

56*th.*—Jowlung and Bankong escorted us to our boats and a party of Abor boys were sent in charge of the mitheen which reached Saikwah in safety.

57*th.*—The results of this visit proved most satisfactory. Return visits were made to us by all the Gaums, who for the first time appeared at Saikwah and at Dębroo with their wives and daughters to see us and to trade; and I received invitations from the Pashee, Padoo, Bomjeer, and Sitook Abors, requesting me to visit them as I had visited the Membu.

TOPOGRAPHICAL REPORT

ON THE

POLITICAL DISTRICTS OF RAIGURH, SARUNGURH, SONEPORE, AND SUMBULPORE,

BY

MR. J. SHORTT,

ASSISTANT SURGEON,

Madras Medical Establishment.

No. 144.

FROM

THE COMMISSIONER OF CHOTA NAGPORE,

TO

W. GREY, ESQUIRE,
Secretary to the Government of Bengal,
Fort William.

Dated Chota Nagpore, the 29th September 1855.

POLITICAL.

SIR,

I DO myself the honor herewith to submit, for the information of Government, a copy of an interesting Topographical Report on the Political Districts of Raigurh, Sarungurh, Sonepore and Sumbulpore, which has been sent to me by Mr. Assistant Surgeon J. Shortt, of the Madras Medical Establishment, who was in medical charge of Captain G. H. Saxton's survey party during the season of 1854-55.

2. I have already had the pleasure of mentioning to the Government the great benefits which the poor and ignorant inhabitants of these Districts have derived from Dr. Shortt's professional zeal, skill and kindness, and I consider him entitled to much credit for having, under circumstances of considerable difficulty, collected the useful information that will be found in his Report regarding a part of the country of which but little is known.

I have the honor to be, &c.,
(Signed) W. J. ALLEN,
Commissioner of Chota Nagpore.

MEDICAL TOPOGRAPHY OF THE SOUTH-WESTERN POLITICAL DISTRICTS, *embracing the partly unexplored country between Latitude* 20° 48′ *and* 22° 12′ *N. and Longitude* 83° 15′ *and* 84° 10′ *E., triangulated by* CAPTAIN G. H. SAXTON, *Assistant Surveyor General in charge of the Ganjam Survey Party, during the Field Season of* 1855.

Field Strength as below :

Surveyor.	Assistant ditto.	Sub-Assistant ditto.	Writers.	Havildar.	Naiques.	Privates.	Gomastah.	Heliotropers, 1st.	Ditto, 2nd.	Hurkurahs.	Carriers.	Lascars.	Lascars and Carriers, Extrs.	Mahwits.	Cowardies.	Tent Lascars.	Bullock Drivers.	Bamboo Coolies.	2nd Dresser.	Totty.	Coolies, Medical Department.	Private Followers.	Chuprassees.	Total.
1	1	10	2	1	4	15	1	8	14	4	6	40	23	4	4	2	10	3	1	1	2	70	3	230

The head-quarters of the Survey left Cuttack for the field on the 18th December 1854 and returned to the same Station on the 5th April 1855 for recess duties.

The Sub-Assistants were singly detached to complete the detail plain table survey of the country which had been triangulated in 1854 and were not present with head-quarters. Captain Saxton went forward triangulating and establishing Stations for the ensuing year.

The only considerable town that we have been through is Sumbulpore, a description of which follows; the other places that require to be noticed are Boad, Sonepore, Raigurh and Sarungurh.

The District of Sumbulpore is about 100 miles long and 88 broad, containing 1,714 villages and a population of 235,776. There are several considerable ranges of hills in the District, the rest of the country is flat and open and about 200 feet above sea level; the highly cultivated valley of the Mahanuddy passes through the centre from North-west to South-east.

The town of Sumbulpore is situated in latitude 21° 28′ N. longitude 84° East, surrounded by hills, the outlines of which are prominent in many places. There are several isolated rocks interspersed about the place, which are more or less barren—in short the general aspect of the country

is dry and bare. The town is situated on the left bank of the Mahanuddy, extending for a couple of miles from East to West and about a quarter of a mile in breadth. At its widest part it expands somewhat irregularly towards the North, contains some 2,061 houses, and the population exceeds 44,640, the majority of whom are Brahmins and Fishermen; but there is a great variety of other castes. The prevailing language is Ooriya, although Hindoostanee is perfectly understood by the greater part of the people. Some of the houses are constructed of stone and mud, while others are of an inferior material, wearing a very fragile appearance. The roofing is thatched. At the Western extremity of the town stands the dilapidated fort, of which a few bastions and a gateway are all that remain. The fort is at present filled to a great extent with pagodas, a few pucka buildings now in ruins, formerly the property of some Rajah, and also some houses belonging to Brahmins. The principal part of the town is towards the East, and a portion exists on the West of the ruined fort. The main street runs right through the town, and there are two other principal streets and a great number of narrow, crooked and filthy lanes which are without any drainage. A jail has been erected in the centre of the fort; it is a "*cutcha*" building, commodious, and said at present to contain 109 prisoners, and has a hospital with a Native Doctor attached to it. This place (Sumbulpore) is garrisoned by the Ramghur horse and infantry. The detachment of the former consists of 25 men (*"sowars"*) and that of the latter of 150. There is also a small police force under a moonsiff. This native official holds temporary charge of the District during the absence (on sick certificate) of the Officiating Political Assistant to the Commissioner of Chota Nagpore.

There are about three or four European houses towards the East, extending a small way on the bank of the river, and the Post Office occupies a small room in the dâk bungalow. Facing the bungalow is a large open plain, beyond which the Ramghur infantry is located, their lines being built in a mangoe tope. A quarter of a mile from this to the West are the Ramghur horse lines. The buildings occupied by the horse and foot are mere huts. A native doctor is attached to each body of these troops. There are four Government roads that converge at this place, one running towards the South-east to Cuttack, a second to Midnapore, a third to Ranchee, and the other to Nagpore.

The country for a mile about Sumbulpore is scattered over with large mangoe topes; there are also several small irregular rocky elevations, gene-

rally formed of sand-stone and gravel. The bed of the river adjoining the town is shallow and for miles above and below it is covered with stones jutting out, presenting a peculiar picturesque appearance and rendering it dangerous for boats, as so many windings are requisite to avoid concussion.

European vegetables are cultivated here, which attain to great perfection, such as the cabbage, knol-kole, artichoke, asparagus, salad, celery, beet-root, pease, mint, radishes, turnips, &c., &c., which are as good as any I have seen in other parts of India.

Fruits, such as the orange, lemon, citron, plantain, pine-apple, guava, rose-apple, grafted mangoe and others grow well. The town is surrounded by many small villages or hamlets, the country around has the appearance of having been cultivated, though at present all looks arid, this being the commencement of the hot weather. This is a town of some commercial importance, since it has *mahajuns* as residents from all parts of the country, by whom a brisk trade is carried on throughout a great portion of the year.

Boad is a large village standing on the right bank of the Mahanuddy; it extends into the Khond hills, and is inhabited by the tribe governed by a Rajah, and is the place where the rebel Chokra Bishoye continues at large.

Sonepore is also situated on the right bank of the river and is a place of some note; it is governed by a Ranee, her son, the Rajah, being considered "*nabaliq*" (under age,) though he is a father.

Raigurh, is a village on the North side of the Mahanuddy, at about 15 miles distant under the rule of a Rajah, and apparently a place of some commercial importance, as a number of *mahajuns* reside in it.

Sarungurh is said to be a good-sized village, but not having passed through it, I am unable to say more.

These Districts are intersected by the Mahanuddy River, which runs from North-west to South-east, and is navigable by small boats throughout the year; but boats of 700 maunds (the maund being equal to 80 pounds) are constantly plying on it during the rains: by these means a good deal of traffic is carried on. The tributary streams of the Mahanuddy are the Telee, Keiloo, Maud, Oong and Ebe, which fall into it within the Districts now noticed. On some of these also boats of small size ply during the rains. As stated above, there are no towns, except, Sumbulpore; the others are mere villages far apart from one another, scattered throughout the Dis-

tricts. The Rajahs exercise an uncontrolled jurisdiction in all matters connected with the government of their estates. The houses are built of wooden rails, or a thick matting of bamboo ; in other places again the inside is thickly plastered with mud, the roofs are scantily thatched, and with less slope than is generally seen elsewhere ; the streets irregularly winding and filthy, no attention being paid to drainage. The outside of a village, as a whole, is fenced with wood or bamboo, which encloses a portion of ground, where vegetables, tobacco, &c., are cultivated, and serves as a fence against wild beasts and prevents cattle from straying.

The people are Ooriyas (Hindoos) ; they have a variety of castes. A few Mussulmans and Rajpoots also live in the District. The prevailing language is Ooriya, and the majority worshippers of Mahadev. To all appearance the natives are active, vigorous and healthy ; cleanly in their habits and person, industrious and readily contented : a little rice and a piece of cloth to wrap themselves with satisfy the height of their ambition. Rice and dholl are the staple articles of diet, of which the country is capable of yielding more than necessary, and that of the best and most nutritious kind. They are also in the possession of large herds of cattle and an abundance of poultry, yet they continue in a wild and uncivilized state, deserting their villages on the approach of our camp and sending their women and children into the jungles. Money is in circulation, but cowries are mostly used among the poorer classes of people. Amongst the villagers are found weavers, iron-smiths, carpenters, and other handicraftsmen.

There is a class of people called "Gunda" in each village, who occupy hamlets on the outstkirts of them—these are servile and execute the menial offices in connection with the village. Each of the independent Rajah's estates contains from 60,000 to 80,000 inhabitants. Commerce is carried on to some extent by the *mahajuns*, who bring cloth, brass utensils and ornaments, salt, &c., which they barter for cotton, tusser, silk, lac, iron, catechu, resin, gums, rice, dholl, moong, collie, mustard, wheat, turmeric, tobacco, oil, and gingolee-seeds.

The weapons in use among them are the bow and arrow, occasionally a sword or match-lock is found with the Rajah's paicks. Nearly all the males carry a *tanghee* (axe) for the express purpose of cutting wood, but it is used also as an instrument of defence.

The country throughout the neighbourhood of the Mahanuddy, on either side, some few spots excepted, is open and well cultivated ; the fields in the lower ground yield luxuriant crops of rice and are watered

from the river ; the high ground produces several varieties of pulse, *viz.* cooltie, chenna, dholl, moong, puttana and mussoor, all of which grow in great luxuriance ; but on proceeding into the interior, the country is covered with dense jungle.

There are a number of hills isolated or detached, as also extensive prolongations, forming table land or flats from one to two miles in circumference. The ground of the surrounding country is undulated, assuming the aspect of hills sweeping round in different directions, and terminating as we advance to the North into level country, and enclosing fertile valleys slightly wooded, whilst the main ridges form plateaus superbly wooded. At some points these ridges terminate in sharp peaks formed of gneiss, conglomerate sand-stone, a compound of quartz, felspar, granite and clay slate. The strata of the hills are frequently made up of calcareous sand-stone, changing reciprocally with grit and red sandy shale ; the soil in the neighbourhood is formed of the debris compounded of the above, and in the lower plains alluvials more or less intermixed with a loamy clay. There are extensive beds of lime, the surface of which is covered with ostite nodules, frequently intermixed with felspar and carbonate of lime.

The Mahanuddy and its tributary streams are the source of water ; no well being built, the few tanks are generally shallow, retaining water for a short period of the year ; but by a little skill these could be converted into lakes, which would hold water throughout the year and the village supplied and the surrounding country irrigated. At present the cultivation, where practicable, depends on the river and on the rain and heavy dews that fall.

The agricultural implements are simple. The forest abounds in trees with good timber—the wood is of strong fibre and close-grained, such as the saul, assaun, catechu, thaintoo, &c. Some of these trees attain to eighty and even to a hundred feet in height. The teak is now being cut in the neighbourhood of these Districts for the Calcutta Railway Company.

To the botanist the place presents an extensive field for fruitful research ; the surrounding country is richly adorned with flowers of almost every hue and odour. Among the fruit trees are the mangoe, which abounds extensively in topes throughout the Districts, as well as a number of wild fruits. Of medicinal plants, the following are to be met with :—Indian bale, chiretta, thorn-apple, Indian squill, catechu, croton,

and nux vomica. I have been also able to recognize many species of plants belonging to the orders *convolonlacea* and *orchidacea*, and parasitic vegetables are in great abundance.

The jungles are infested with beasts of prey and game of almost every description are to be met with. The following are the animals mostly seen :—the tiger, leopard, chetah, hyena, wolf, jackal and fox, wild boars, buffaloe, bison, elk, spotted deer, antelope and hare, besides a number of small animals, which prove destructive to the country, whilst the rivers contain alligators, &c.

Ornithology.—Birds are numerous and of great variety, among them are to be seen the falcon, vulture, kite, hawk, owl, crow, three varieties of the parrot, jay, the common sparrow, dove, green, blue and imperial pigeon, pea and wild fowl, black and grey partridges, the black and grey minahs, ducks, teal, divers, widgeon, snipe, segrus, cranes, curlew, rock pigeons or grouse, and a very great variety of humming birds, &c.

Meteorological Phenomena.—The weather was cool and pleasant on leaving Cuttack (head-quarters) ; a little rain fell at the end of December. January was pleasant throughout, although the mornings and nights were very cold and chilly, heavy dew at night and dense fog towards the break of day. There were a few slight showers of rain ; the lowest point of temperature indicated by a self-registering thermometer was 40° and the maximum heat 95°. February was pleasant for a few days. On the 9th there was a hail-storm, followed by much rain, thunder and lightning—the hail-stones averaged the size of a hen-egg : some slight damage was done to the village, our tents likewise suffered somewhat : this state of the weather cleared up in a couple of days. On the night of the 13th there was much thunder and lightning, followed by rain, which continued more or less incessantly, day and night, up to the 19th, when it gradually cleared : the rest of the month was pleasant, but the heat at mid-day was great. The thermometer's lowest range 42°, highest 98° in tents, the weather gradually getting warmer, the mornings and evenings pleasant. On the 10th there was some rain, accompanied by thunder during the night, which continued to the morning of the 11th, when the wind blew cool from the North-west and terminated in a squall : it continued more or less hazy up to the night of the 15th, when it began to rain, and on the morning of the 16th, there were vivid flashes of lightning, with loud peals of thunder. At Sumbulpore where we were encamped, the lightning truck a boy and two women, knocking the former down senseless with

back and legs much burnt, the latter slightly scorched. It continued to blow strongly from North-west, and at night became squally. The rain continued at intervals up to the 18th, when it gradually began to clear up. The lowest range of thermometer 42°, highest 90°. A Table of the daily range of the thermometer is appended.

These Districts, as far as I have been able to ascertain, are particularly unhealthy during the South-west Monsoons, owing to the malarious exhalations from the rivers, swamps covered with long grass and jungle, where vegetable matter is constantly undergoing decay. In several places we were obliged to encamp in unfavorable localities, as the nature of the country would not permit a better selection, but as soon as the temperature began to vary, about one-third of the camp suffered from fever. The majority of those affected had to sleep out in the open air. In order to avoid sickness as much as possible, large fires were lighted, the men slept on straw, and did not travel at nights, generally starting at break of day and partaking of food ere doing so, to prevent being exposed to noxious vapours with an empty stomach.' We found those particular localities favor sickness where the atmosphere had been stagnated by a dense jungle and an encircling chain of hills.

I shall briefly notice the diseases that came under my observation during the season, both in our camp as also in the villages.

Fever was the prevailing disease, chiefly of an intermittent type; one case, that of a private servant, proved fatal. He had a relapse previous to the recovery of his constitutional vigour and symptoms of congestion of the brain supervened suddenly, and in a few hours he expired. Being a man of caste (Bengalee,) it was difficult to get him to take food. It is supposed he was addicted to opium-eating, as a quantity was found on his person after death.

The cases of fever generally yielded to the usual remedies, and emetic and purgative were administered, followed by small doses of quinine. After a time, owing to relapses, I adopted a different system of treatment. On admission the patient had one drachm of compound jalap powder, with ten grains of quinine. Subsequent to the operation of the purgative, according to circumstances, the patient took twenty grains of quinine at a dose, and was then left alone, attending only to diet. Since adopting this measure I never had a case of relapse, nor had I occasion ever to give more than thirty grains of quinine, as mentioned above, to one patient.

There were a few cases of rheumatism, which followed after fever; in these cases the treatment consisted of purgatives, followed by five grains of Dover's powder and two grains of quinine three times a day, a five-grain blue pill every second or third night, and frictions of mustard oil to the affected joints.

There were a few cases of dysentery, which readily yielded to ipecacuanha; several cases of itch in which sulphur was used with perfect success.

Among the natives of the villages, fever prevails to a great extent, terminating in enlargement of the spleen. I had opportunities of examining these, and saw some hundreds of cases, in some of which I measured the spleen, which extended from the umbilicus to the spine, measuring 18 inches from the sixth rib to the crest of ileum twelve inches, and as well as I could ascertain the thickness exceeded two and a half inches. This affection of the spleen eventually ends in ascites or jaundice, which terminates the life of the sufferer.

Pulmonic affections are very common, chiefly bronchitis and pummonia. A few cases of phthisis also came under my observation. The two former are evidently brought on by exposure to cold and wet, the latter by some constitutional taint.

Dysentery is common, as also cholic, for there was not a village where I had been, but one or more cases presented themselves. I could not trace the disease to any particular cause. Cholera is said to prevail occasionally and rheumatism is very common, generally as the sequel of fever, but the natives attribute it to the use of the river water.

Small-pox devastates whole villages, and hence small-pox inoculation is practised throughout these Districts, and is the chief source of contagion from whence the disease propagates itself far and wide. It is practised by Ticcadars, who make it their means of livelihood. The practice is compulsory, that a member of the family is bound to follow in the same occupation as his predecessors for the maintenance of himself and family. Vaccination is not known, nay, more correctly speaking, has never been heard of in these parts. From personal interview with the Ticcadars, they, as well as the people, on its being explained to them, had no objection to vaccination being substituted for inoculation; the people dread the present practice, yet the evil being a necessary one, they are obliged to resort to it.

Advantage might be taken of the services of the Ticcadars for the introduction of vaccination under European superintendence till they

would be in a position to appreciate its value. I obtained a large supply of vaccine lymph from Madras and Vizagapatam in hermetically-sealed glass tubes and glasses, as well as scabs, and was at some pains to introduce vaccination, but regret to say that it signally failed, though a great number of subjects were operated upon. I left a supply with the Native Doctors at Sumbulpore and requested they should make a further trial. A medical officer, placed in some central position, from whence he could make occasional excursions into the surrounding villages, would encourage the Ticcadars as well as the people themselves to have recourse to vaccination; he could also make himself otherwise useful in giving his advice to the sick, who come in crowds when encouraged and invited to do so. I need not say what would be the result among a class of people who are quite uncivilized, but in my opinion it would tend very much to conciliate the most hostile of them to the British rule and to European medical practice.

Ulcers, abscesses, leprosy and other diseases of the skin are quite common. It is really painful to witness some of the poor suffering creatures, whose diseases, from improper treatment and neglect, are aggravated ten-fold, undermining the constitution and causing the loss of limbs, &c., if not previously carried off by constitutional irritation. The natives seldom or ever resort to medicine, but chiefly to external applications, generally of an irritating nature, and to charms, prayers and offerings to their god. I had sick from different villages following our camp for days together, placing themselves under treatment. A great many minor surgical operations were performed, and I am happy to add, that in the majority of these it laid in my power to afford relief both in medical and surgical cases.. The poor people greatly appreciate European treatment, readily taking medicine given to them and patiently submitting to operations when required.

General Productive Resources.

The District abounds in different mineral, vegetable and annual products :—

1. *Diamonds* are sought for in the Mahanuddy River by a class of people who are called Joorahs and who are fishermen by trade and to whom Government farm the river for the small sum of Rupees 15 per annum. The part in which ths mineral is found, at a place called " Heeracode," which is near to Chenderpore, adjacent to where the River Maud joins the Mahanuddy. The river here makes a sudden turn to the left, where,

amongst the smaller streams which they dam up for a time, the diamonds are searched for during the hot season, generally commencing at the termination of the monsoons. They have not been searching for this desirable gem for many years past, and have now the first time bought the river, and it is to be learned hereafter what success will attend the undertaking.

The process is simple, every promising spot is dug into which the Joorahs are able to judge of by experience, the sand is thrown on the bank of the river, which the women wash and expose to the sun, selecting every particle suspected to be diamond for subsequent examination.

2. *Coal.*—An extensive bed of coal exists in the Ghauzpora District, about 60 miles North-west of Sumbulpore. It extends for several miles, frequently being exposed on the surface, whilst at other places the stratum underlies either a bed of sand-stone or lime, sometimes both, and at others under a micaceous bed of coal, shale or dark greyish or bluish lime-stone ; the ground undulates, the stratum takes a horizontal direction and on the rise an oblique, often argillaceous, lime-stone is found to underlie the coal, which exists in layers of varied thickness ; the upper stratum being poor and unequal, the shale is formed of a brown or micaceous grey sand-stone.

At some places the country around exhibits for miles a continued outcrop of rocks, consisting of a micaceous shale and sand-stone, intermixed with lime, showing the existence of an extensive coal field extending up to the River Ebe, which is tributary to the Mahanuddy.

A nullah runs right through the bed of coal, which leaves it exposed to view to the thickness of from 15 to 22 feet in depth, but not of one continuous stratum, being now and again broken to a small extent.

Large masses of coal are seen drifting along the Ebe, from whence they often find their way into the Mahanuddy. The field of coal is some 40 miles from the river, so that it is not unfavorably situated with regard to transport ; and as the river is navigable throughout the year, it could be taken to the coast and shipped. The drifted fragments of coal, which are found in large masses, readily ignite and burn well, but that got from the surface of the bed is evidently of an inferior quality, being heavy and not readily igniting. Some parts do not burn at all, but crack into small pieces. Unfortunately I had not time to make more extended investigation, or any apparatus with which to explore the bed. Labouring under these disadvantages, added to a hurried march of 20 miles under a drizzling rain

continuing for several days, I completely failed in my efforts, so that the result of my research is necessarily imperfect, though perhaps somewhat suggestive of future investigation, the more so, if the projected railway for connecting Bombay and Calcutta should be realized, the line would pass through this neighbourhood, so that it becomes a matter of great importance that its real value should be determined as speedly as possible. Captain Saxton has forwarded specimens of the coal, &c., to the Secretary of the Bengal Asiatic Society to be tested with reference to its quality.

3. *Gold* is said to be found in many parts of the Mahanuddy, as also several valuable stones of sizes in the river's bed, as agate, jasper, cornelian, tommaline, topaz, opal, &c.

4. *Iron.*—Abundance of iron-stone is found in all parts of the District, two-thirds of which are consumed within the District and the rest exported into the Cuttack market, which admits of a profitable trade being carried on.

The chief consumption of iron in these Districts is in the making of axes, bars for ploughs, and other minor implements of agriculture. Every man in the District has a *tanghee* or axe made of iron for the purpose of cutting wood with. The exported crude iron is purchased at one anna the seer and is sold for double that amount at Cuttack, where it is conveyed on pack-bullocks or carts. In the process for obtaining iron from the stone, no flux is used—it is smelted by means of charcoal: the iron obtained is considered to be good—the iron-stone contains a proportion of from 12 to 15 per cent. of the metal. The furnace stands about 4 feet in height and the width inside is 1 foot. Three men are employed at each furnace, two to work the bellows and one as feeder; the furnace is closed at the bottom, the fire being maintained by an artificial blast introduced through a fire-clay pipe, which is closed with clay after the introduction of the bellows, whose tubes are made of common bamboos, which play into the fire-pipe. The materials consist of charcoal and iron-stone, the latter is broken into pieces and put together with the charcoal into the furnace, which is constantly being supplied from the top. On another side a hole is made in the ground, connected with an opening at the bottom of the furnace, through which the slag escapes and is from time to time removed, leaving the metal below. The iron smelters are a distinct class and live in separate villages, possessing some ten or twenty furnaces at each place. The iron obtained by the use of

the charcoal is considered superior to that obtained by the use of coal. I have no doubt, but that under European agency and the application of science, the iron may be obtained in a larger proportion, particularly as the charcoal is procurable in abundance at the most trifling cost in the jungles.

5. *Lime*, in all its various combinations, and quartz, silex, &c., abound in every part of the District.

6. *Cotton* is extensively cultivated throughout the District, on grounds neighbouring the jungles, and to all appearance seem to produce a large crop, and the staple article is of good quality; it is collected and cleaned by the women, the greater portion is exported, and in some villages thread is spun and sold to weavers, who weave it into cloth with a common loom.

7. *Catechu.*—The jungles are filled with acacia catechu trees, and large quantities of the juice are prepared and exported to different parts of the country. The preparation is thus effected. A large number of trees are felled, and the inner colored wood is cut into small chips; these are put into a large earthen vessel and allowed to macerate from twenty-four to forty-eight hours; it is then boiled and the decoction evaporated, till it attains a certain consistency, when it is poured out into moulds made of leaves and exposed to the sun to dry, in which state it is exported. The natives chew it with betel-nut, and also use it as a substitute for jaggery to cement mortar: they do not appear to use it medicinally. The wood is considered very strong and reckoned the best for making screw-presses for extracting the juice of the sugar-cane, as also for other general purposes.

8. *Resin and Gums.*—Quantities of resin and other medicinal gums are collected by the natives for exportation; it is obtained in the usual way by incising the bark and gathering the gums after exudation.

9. *Lac.*—Large quantities of this dye are collected in the jungles and boiled, and both the shell-lac and dye are exported.

10. *Rice* is so very abundant here, that although it forms the staple article of food, a large quantity is exported to the Cuttack market, as also dholl, moong, cooltie and other pulse.

11. *Mustard* is extensively cultivated, and the seed as well as the oil (which is obtained by expression,) is exported. The natives use it for culinary purposes.

12. *Gingelee Seeds* are also extensively cultivated and the oil obtained by expression and exported, it is used by the natives in their curries as also for anointing their bodies with.

13. *Jaggery.*—Raw sugar or jaggery is obtained from the sugar-cane which is under cultivation to some extent, the juice is extracted by means of a screw-press and boiled down to a certain consistence, in which state it is exported.

14. *Turmeric* is cultivated, as also exported. The natives, more especially the women, stain their skin with it, used also as a dye for silk.

15. *Castor and Lamp Oil Seeds* are cultivated and oil obtained by boiling; it is very thick and has a dark colour, with a strong smell quite rancid. It is chiefly used for the lamp and the seed itself exported.

16. *Tobacco* is cultivated to a small extent and the supply is generally consumed in the village itself, for almost every male, from eight years and upwards, sports his cigar; the tobacco being wrapped in a leaf, they puff in style.

17. *Vegetables* are to be had about the villages, such as the brinjall, three varieties of the kuddoo or pumpkins, radish, onions, chillies, tomatos, mooringa, maund pulee, and yams; at some places green plantains are to be had.

18. *Timber.*—Large quantities of good wood of all kinds are floated down the river for export, towed by boats or dinghees.

19. *Bamboos* of several kinds, both the large and the small variety, abound in these jungles, from which the natives form a kind of matting, answering as a walling to their huts, as also a fence to the cultivation. I am not aware of the bamboo being exported to any distance.

20. *Tusser Silk* is manufactured to a great extent throughout these Districts, a large quantity of which is made use of in the country, besides that exported. It is prepared by the natives, it is more durable and equally as cheap as common cotton cloth. It is made into men's and women's cloth, the former averaging from eight to twelve and the latter from twelve to fifteen cubits in length, and both of the same breadth, about two and a quarter cubits—they are colored yellow and pink, the former effected by turmeric and the latter by lac. The cloths intended for females have a fancy border, excecuted through the medium of their dyes. Cocoons are to be had plentifully in these Districts; in some particular parts the worm is reared, for which purpose the cocoons are secured ere the fly makes its

exit, and put into a new earthen vessel; in due time the worm eats its way through, when it is fed with assamun leaves; the fly dies in a short time, leaving behind a number of eggs, which are collected and taken into the jungles and placed around the assamun tree; after the larva are hatched, they feed on the leaves of the tree, forming in due time the cocoon for the chrysalis.

The cocoons are collected both in the wet and dry seasons, after the moth has flown; they are then soaked in water for a couple of days, then taken out and boiled in fresh water, with a quantity of wood-ashes, by which process they are softened and extended by the fingers, when the fibre or thread is wound off with a spindle and formed into skeins in a very rude manner. For manufacturing the tusser silk, the common loom is used.

21. *Buffaloe Horns and Hides.*—Horns and hides of different animals are collected and exported; the wild buffaloes' horns are considered very good as they often measure ten feet in length. A small reward is given at Sumbulpore for the destruction of tigers, chetahs, bears and hyenas, &c.

22. *Tattoos—Cattle.*—In regard to horses, a few miserable-looking tattoos are to be seen now and again. The cattle are very numerous throughout the District; though of a very small species, and of the short-horn breed, yet they appear to be well built and strongly set in the barrel exhibiting a conformation of great strength; they are chiefly used as pack bullocks and sometimes to draw the plough and cart.

There are no good milk cows to be seen, although in the enjoyment of fine and abundant pasture in the jungles. Generally they are in a good condition, except in the neighbourhood of Sumbulpore they are wretchedly thin and sickly-looking, and I believe subject to a disease called "Matha," which destroys whole herds. Cattle are exported in large numbers.

23. *Buffaloes* are pretty common, the males are used in drawing carts and the plough; some are of enormous size and height; some parts of the District abound with the wild buffaloes, which are destructive to the farmer and are very ferocious when attacked.

24. *Goats* of the common kind are plentiful; their flesh is used by the villagers, as also their milk; they do not appear to thrive well.

25. *Sheep* are scarce; the few seen are what they call "desie;" they also do not thrive in these parts.

26. *Poultry.*—Fowl of a smaller breed than the common one here in great plenty. It is only the lower castes that make use of fowl. Towards the North the art of caponing is understood.

(Signed) JOHN SHORT, M. D.,
Assistant Surgeon,
In Medical charge, Ganjam Survey Party.

VIZAGAPATAM,
5th June 1855.

(True Copy)

(Signed) H. C. RABEHOLM,
Offg. Uncov. Assistant to the Commissioner.

1855.

JANUARY.

Daily range of Thermometer and indication of Weather, &c., in the South-Western Political Districts, during the Field Season of the Ganjam Survey.

Day.	Date.	6 A. M.	Mid-day.	6 P. M.	Wind.	Weather.	Remarks.
Mon. ...	1	49	77	76	N., ...	Cool and clear.	
Tues. ...	2	49	79	78	N., ...	Ditto.	
Wed. ...	3	54	68	68	W., ...	Cloudy.	
Thurs....	4	55	77	77	N. variable, ...	Ditto.	
Fri. ...	5	60	78	79	E. N. E., ...	A. M. foggy, noon cloudy.	
Sat. ...	6	60	70	72	E. variable, ...	A. M. heavy fog, P. M. rain, thunder.	
Sun. ...	7	60	66	68	Variable, ...	6 & 7, thunder, lightning, and heavy rain at night.	
Mon. ...	8	64	78	76	N. N. E., ...	Foggy, P. M. clearing up.	
Tues. ...	9	55	75	77	Ditto, ...	Thick fog, noon clear.	
Wed. ...	10	58	77	78	N. W., ...	Clear.	
Thurs....	11	60	78	81	Variable, ...	Cool and clear.	
Fri. ...	12	56	76	77	N. variable, ...	Ditto.	
Sat. ...	13	60	77	79	W. S. W., ...	Cloudy.	
Sun. ...	14	56	76	77	N. W., ...	Cool and clear.	
Mon. ...	15	50	75	76	N., ...	Ditto.	
Tues. ...	16	50	77	79	N., ...	Cool & clear, P. M. cloudy.	
Wed. ...	17	59	80	77	N. W. S. W., ...	Clear, noon wind Southerly and cloudy.	
Thurs....	18	62	78	77	S. variable, ...	Fair, 8 P. M. slight rain.	
Fri. ...	19	59	73	75	N. W., ...	Cloudy throughout.	
Sat. ...	20	55	74	76	N., ...	Cloudy.	
Sun. ...	21	53	80	78	N., ...	Cool and clear.	
Mon. ...	22	51	73	74	N., ...	Ditto.	
Tues. ...	23	48	81	79	N. P. M. & S. W.,	Ditto, P. M. cloudy.	
Wed. ...	24	50	77	79	N. N. W., ...	Cool and clear.	
Thurs....	25	51	78	83	N., ...	Ditto.	
Fri. ...	26	53	85	85	N., ...	Ditto.	
Sat. ...	27	57	83	86	N. S. W., S. W.,	Ditto.	
Sun. ...	28	60	84	86	N., ...	Ditto.	
Mon. ...	29	58	77	82	N., ...	Ditto.	
Tues. ...	30	55	79	82	N., ...	Ditto.	
Wed. ...	31	54	83	85	N., ...	Ditto.	

1855.

FEBRUARY.

Daily range of Thermometer and indication of Weather, &c., in the South-Western Political Districts, during the Field Season of the Ganjam Survey.

Day.	Date.	6 A. M.	Mid-day.	6 P. M.	Wind.	Weather.	Remarks.
Thurs. ...	1	53	83	85	N., ...	Cloudy.	
Fri. ...	2	55	84	84	N., ...	Clear.	
Sat. ...	3	55	79	79	Variable, ...	Clear, P. M. cloudy.	
Sun. ...	4	61	84	73	N. S. W., ...	Clear, P. M. cloudy, with thunder and rain.	
Mon. ...	5	64	78	76	S. W., ...	Cloudy.	
Tues. ...	6	60	77	75	N., ...	A. M. foggy.	
Wed. ...	7	58	85	83	N. variable, ...	Cool and clear.	
Thurs. ...	8	57	85	85	N., ...	Ditto.	
Fri. ...	9	57	85	83	N., ...	Ditto.	
Sat. ..	10	56	86	84	N., ...	Ditto.	
Sun. ...	11	59	85	86	N., ...	Ditto.	
Mon. ...	12	58	83	84	N. S. W., ...	Ditto, P. M. cloudy.	
Tues. ...	13	63	85	85	S. W., ...	Five P. M. cloudy, thunder and lightning.	
Wed. ...	14	63	84	86	W., ...	Fair.	
Thurs. ...	15	64	90	89	Variable, ...	Cloudy, thunder and lightning.	
Fri. ...	16	65	66	67	W. variable, ...	Ditto, rain and squally.	
Sat. ...	17	65	74	71	S. W. N. W., ...	Cloudy, thunder and rain.	
Sun. ...	18	65	66	66	S. E. variable,...	A. M. thunder and rain, steady rain throughout.	
Mon. ...	19	65	67	67	Ditto, ...	Cloudy, thunder and rain.	
Tues. ...	20	65	74	78	Variable, ...	Cloudy.	
Wed. ...	21	58	73	78	N. W., ...	Cool and fair.	
Thurs. ...	22	64	74	77	N. E. variable,	Cloudy, river rising.	
Fri. ...	23	65	75	77	Variable, ...	Cloudy, river high.	
Sat. ...	24	66	77	77	W. variable, ...	Fair, river falling.	
Sun. ..	25	66	87	86	Variable, ...	Fair.	
Mon. . .	26	65	86	87	N., ...	Ditto.	
Tues. ...	27	66	85	85	N., ...	Ditto.	
Wed. ...	28	65	84	83	N., ...	Ditto.	

1855.

MARCH.

Daily range of Thermometer and indication of Weather, &c. in the Southern Political Districts, during the Field Season of the Ganjam Survey.

Day.	Date.	6 A. M.	Mid-day	6 P. M.	Wind.	Weather.	Remarks.
Thurs....	1	67	82	88	N. variable, ...	Cool and clear.	
Fri. ...	2	69	82	83	N. W. variable,	Cloudy, P. M. clear.	
Sat. ...	3	68	84	88	Ditto, ...	Only cloudy.	
Sun. ...	4	70	84	89	S. W., ...	Ditto.	
Mon. ...	5	69	80	85	Variable, ...	Clear, P. M. cloudy and thunder.	
Tues. ...	6	70	85	87	N. W., ...	Cloudy.	
Wed. ...	7	69	82	86	Variable, ...	Clear.	
Thurs....	8	69	83	87	Ditto, ...	Ditto.	
Fri. ...	9	72	85	86	Ditto, ...	Ditto.	
Sat. ...	10	72	80	82	Ditto, ...	Thunder, lightning and rain.	
Sun. ...	11	72	83	84	W., ...	A. M. squall from N. W. and rain.	
Mon. ...	12	70	83	83	N., ...	Fair.	
Tues. ...	13	69	85	86	N., ...	Ditto.	
Wed. ...	14	69	84	85	Variable, ...	Cloudy.	
Thurs....	15	69	80	87	Ditto, ...	Ditto, P. M. Rain.	
Fri. ...	16	70	72	72	A.M. N.W.P.M. E.,	Cloudy, thunder and lightning from N. W., night squally.	
Sat. ...	17	64	75	80	S. E. variable,...	A. M. thunder, lightning and rain, P. M. clear.	
Sun. ...	18	69	85	86	N. W., ...	Fair.	
Mon. ...	19	68	79	82	N., ...	Ditto.	
Tues. ...	20	64	72	80	N. W., ...	Ditto.	
Wed. ...	21	68	75	88	Ditto, ...	Ditto.	
Thurs....	22	66	80	78	Ditto, ...	Ditto.	
Fri. ...	23	70	90	84	Ditto, ...	Ditto, thunder, lightning and rain, P. M.	
Sat. ...	24	75	100	84	E. S. E., ...	Fair.	
Sun. ...	25	75	100	84	N., ...	Rain.	
Mon. ...	26	73	98	80	N. W., ...	Fair.	
Tues. ...	27	72	96	80	Ditto, ...	Ditto.	
Wed. ...	28	75	98	82	S. W., ...	Rain.	
Thurs....	29	74	99	82	N. W., ...	Ditto.	
Fri. ...	30	70	97	81	N., ...	Fair.	
Sat. ...	31	72	94	78	N. N. E., ...	Much thunder, lightning and rain.	

(Signed) JOHN SHORT, M. D.,
Assistant Surgeon,
In Medical charge, Ganjam Survey Party.

(True Copy)

(Signed) H. C. RABEHOLM,
Offg. Uncovenanted Assistant to the Commissioner

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